Parent–healthcare provider interaction during peripheral vein cannulation with resistive preschool children

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Abstract

Aim. The aim of this study was to increase understanding of parent–healthcare provider interaction in situations where newly admitted preschool children resist peripheral vein cannulation.

Background. Parent–healthcare provider interaction represents an important context for understanding children’s resistance to medical procedures. Knowledge about this interaction can provide a better understanding of how restraint is used and talked about. Symbolic interactionism informed the understanding of interaction.

Design. An exploratory, qualitative study was chosen because little is known about these interactions.

Methods. During 2012–2013, 14 naturalistic peripheral vein cannulation attempts with six newly hospitalized preschool children were video recorded. Eight parents/relatives, seven physicians and eight nurses participated in this study. The analytical foci of turn-taking and participant structure were used.

Results. The results comprised three patterns of interactions. The first pattern, ‘parents supported the interaction initiated by healthcare providers’, was a response to the children’s expressed resistance and they performed firm restraint together. The second pattern, ‘parents create distance in interaction with healthcare providers’, appeared after failed attempts and had a short time span. Parents stopped following up on the healthcare providers’ interaction and their restraint became less firm. In the third pattern, ‘healthcare providers reorient in interaction’, healthcare providers took over more of the restraint and either helped each other to continue the interaction or they stopped it.

Conclusion. Knowledge about the identified patterns of interactions can help healthcare providers to better understand and thereby prepare both parents and themselves for situations with potential use of restraint.

Keywords: child, communication, ethics, medical, medical procedures, paediatric nursing, paediatrics, peripheral vein cannulation, professional-family relations restraint, physical, symbolic interactionism
Why is this research or review needed?

- The use of restraint during medical procedures in pediatric care is still an underexplored area of research.
- Knowledge about parent–healthcare provider interaction can enhance the understanding of children’s resistance to medical procedures and thereby the use of restraint.
- Parents’ presence during medical procedures is common, but empirical knowledge on how the parents interact with healthcare providers is lacking.

What are the key findings?

- At the beginning of the medical procedure the parents supported the healthcare providers’ distractive conversation and other efforts to overcome the children’s resistance.
- A break in the interaction between parents and healthcare providers was initiated by the parents when the procedures stretched out in time and the healthcare providers failed in their attempts to place the peripheral vein cannula.
- When parents no longer supported the healthcare providers’ attempts of peripheral vein cannulation and the efforts to manage the resistive child, healthcare providers either continued the conversation between themselves or completed the procedure in silence.

How should the findings be used to influence policy/practice/research/education?

- Healthcare providers should prepare themselves on possible shifts in parents’ cooperation during procedures, especially after failed attempts of peripheral vein cannulation.
- To arrange for more predictability in the performance of the procedure, healthcare providers should discuss with parents how and in what way they want to and are capable of participating during procedures.
- To arrange for better cooperation between healthcare providers and parents, preparatory education of parents should include their role during medical procedures.

Introduction

Parents are currently taking more responsibility for the everyday care of their hospitalized children and participation during medical procedures is often expected. Parent–healthcare provider interaction is challenged when preschool children resist procedures and require physical restraint (Crellin et al. 2011). Verbal communication between parents and healthcare providers before and during medical procedures affects children’s levels of cooperation and distress (Blount et al. 2001, Vance & Eiser 2004, Taylor et al. 2011, Bearden et al. 2012). Knowledge of the actual physical and verbal interaction that happens during procedures can help healthcare providers to understand and approach such situations better. Knowledge is important because it may contribute to develop better ways of approaching and managing children’s resistance during medical procedures. This paper explores healthcare providers and parents’ interactions in situations with preschool children who resist going through the commonly performed procedure of peripheral vein cannulation (PVC).

Background

Parent participation has been advocated in the care of children admitted to hospitals (Hallström & Runeson 2001, Power & Franck 2008, Coyne & Harder 2011). Many parents have a strong desire to participate and accompany their hospitalized child (Lam et al. 2006). Parental participation in this context consists largely of ‘basic comforting’, leaving technical activities to healthcare providers (Power & Franck 2008). Parents felt unhappy and reluctant when they thought that nurses expected them to participate during painful procedures (Hallström & Runeson 2001). Uncertainty about their role as parents in hospitals and specifically during procedures might be a stressor for parents (Kristensson-Hallström 2000, Hallström et al. 2002). Parents might even find it devastating to participate in restraining their child during procedures (McGrath & Huff 2003). Runeson et al. (2002) concluded that parents did not necessarily take their child’s side to protect them when the child experienced distress, neither did they demand a new approach during unpleasant procedures. Although there are mixed results regarding the effect of parental presence on children, it seems to comfort the child (Piira et al. 2005, Gilboy & Hollywood 2009).

Safe PVC procedures require support of the targeted needle insertion point (Hull & Clarke 2010). When a child resists the procedure, the support might become forceful (Crellin et al. 2011). Restraint can be defined as ‘the positive application of force with the intention of overpowering the child’ and ‘applied without the child’s consent’ (RCN 2003). Most PVC with preschool children requires some sort of application of force and is often labelled as restraint (Crellin et al. 2011, Brenner et al. 2014). The Norwegian legislation concerning coercive medical treatment in children is unclear (Aasen 2008, Syse 2012). Legislation might be complex and vary between countries and regions (Allison & McHugh 2008). This study was carried out in Norway and with the exception of emergency situations, there is no specific legislation that applies to situations where a
minor resists treatment. Informed consent is the main rule in Norwegian health law and one can argue that use of force is generally illegal. Most suggest however, that the child’s best interest and parental consent should be the guiding principles when the child is incompetent, though this is often without explicit awareness of possible resistance (Syse 2011, 2012). Child resistance or coercive medical treatment to minors is generally not an issue in Norwegian law or international clinical guidelines (Aasen 2008, Troianos et al. 2011, Stock et al. 2012). The complexity of the task and uncertainty of consequences can affect clinical judgments in the situation. Consequently, the strength of children’s resistance can create an ethical dilemma for healthcare providers (Ives & Melrose 2010). Healthcare providers who restrain might feel that they have to choose between causing harm and promoting health (McGrath & Huff 2003, Lloyd et al. 2008, Ives & Melrose 2010).

Perspectives in symbolic interactionism

Parents and healthcare providers ‘set the stage’ for children’s responses and one way to understand how this is done is by investigating roles and behaviour (McCall & Simmons 1978). The analysis in this study was influenced by symbolic interactionism (SI). In SI, an important premise is that people act on the basis of the meaning the ‘things’ have for them and that meaning is derived or arises from social interaction with others (Blumer 1969). According to SI, one of the tasks for individuals in interaction is the establishment of a definition of the situation. Cast (2003) suggested, through the definition of situational meanings that individuals work to define the self as a particular type of person: by behaving in ways consistent with their identity, by influencing the behaviour of others and by resisting the identities that others, in turn, seek to impose on them. Individuals seek to define the situation so that it reflects their own conception of who they are in the interaction (McCall & Simmons 1978, Cast 2003). Different situational meanings can contribute to negotiations about roles and behavior. Healthcare providers have special ethical, professional and legal responsibilities in healthcare situations (Beauchamp & Childress 2013). Parents also have special responsibilities as guardians, for example to relate to and protect their child. Different responsibilities influence situational meaning and motivate behaviour, which can lead to dilemmas and conflicting understandings. SI can serve as a perspective to understand parent–healthcare provider interactions during the PVC situation.

The study

Aim

The aim of this study was to broaden the understanding of parent–healthcare provider’s interactions when preschool children resist medical procedures. The following research question was developed:

How do healthcare providers and parents interact when managing preschool children’s resistance to PVC?

Design

We chose an exploratory, qualitative design because it is appropriate when little is understood about a topic; the interaction between parents and health care providers during PVC (Polit & Beck 2008).

Setting, sampling and participants

The study was carried out in a medical hospital unit for children, located in the southern part of Norway, serving 20 beds for patients between the ages of 0-18 years. PVC was chosen because it is a commonly performed procedure where restraint often occurs (Crellin et al. 2011). We observed parent–healthcare provider interactions in situations with newly admitted children. Situations where the children had less than three previous admissions and their present stay was less than 2 weeks were sampled. We assumed that with long-term or frequently hospitalized children negotiation on how to deal with the child’s resistance was already established. Situations with six children between 3-5 years old met our inclusion criteria. All children had their mother, father or both accompanying them. All children were provided with local anaesthetic cream. There were two incidences of medication with sedative on one child. Seven physicians and eight nurses participated in the study (one physician participated in more than one situation), as shown in Table 1. All physicians and all but one nurse were women.

Data collection

The observational method of video recording was used for collecting data in PVC situations between May 2012–May 2013. In addition, field notes were written and background information was collected about the participants. There were 14 PVC-attempts of PVC on the six children, including attempts that did not end in cannula placement (Table 1). The physicians performed the insertion with
assistance from nurses or a co-physician. One to four attempts on each child were necessary to successfully place a needle in the veins of five of the children. In one situation, the child was left without the planned PVC.

The video recordings started before the participants entered the room and lasted until the healthcare providers signalled that they were finished; recordings lasted 10-45 minutes. One situation had a much larger actual time span, because of a 45 minute break between two attempts. We used video recording to enable better activity description and for the interactions to be seen several times by different researchers (Jordan & Henderson 1995). The video camera was placed on a tripod by the first author who was present during the recordings. To help the participants defocus their attention from the camera, she positioned herself away from the camera. Field notes were written immediately after the video recordings to contextualize the interaction.

**Ethics and privacy protection**

We obtained approval from The Regional Research Ethics Committee and local hospital board. Management of data followed the laws and guidelines regulating research in Norway. Informed consent was provided by parents and healthcare providers and parents consented on behalf of the child. To arrange for and recognize the child’s consent, we were attentive to the child’s reactions to the camera and toward the researcher to interpret willingness to participate. No additional PVC was performed for this study. Pseudonyms are used when presenting the material.

**Analysis**

Although the key assumptions in symbolic interactionism are well defined, it is not a method but a theory that can provide an analytical perspective (La Rossa & Reitzes 1993). For data analysis in SI, we used interaction analysis (IA) as outlined by Jordan and Henderson (1995). A predominant framing assumption in IA concerns ‘how people make sense of each other’s actions as meaningful, orderly and projectable’ (Jordan & Henderson 1995) (p. 41). This can be relevant to how the meaning arises in the process of interaction and how people operate to define the situation, which is important in SI. IA was developed for analysis of recorded observations of naturalistic, actual behaviour and helps analyse the social mechanism inherent in situations to identify the participants’ mutual dealings (Jordan & Henderson 1995). To facilitate IA, the qualitative research software Nvivo10© was used. We reviewed the recordings with parallel reading of the field notes to get an overall contextualised picture of the data material.

According to Jordan and Henderson (1995), we analysed the tape in terms of analytical foci (as opposed to categorisation and transcript condensation). First, we reviewed the video several times with the analytical foci of turn-taking. Turn-taking might encompass a whole range of behaviours through which people can take turns. In situations requiring a physical task, talk and physical activity are complexly intertwined in the turn-taking system (Jordan & Henderson 1995). The first phase of this analysis revolved around questions like: what are the breaks in turn-taking during PVC procedures between the healthcare providers and the parents and who takes a turn with whom and in what way? During this process, we identified parts of the interactions that were both fluent and non-fluent, indicating shifts in situational meaning for the interacting participants we observed. These shifts marked the beginning and end of the different patterns later identified.

In the next step, we focused on how healthcare providers and parents aligned themselves before and after these breaks in the turn-taking, which represented the second analytical foci of participant structure (Jordan & Henderson 1995). To identify participant structures, one
investigates how the participants’ mutual availability and alignment becomes visible through mutual engagement and disengagement; this provides the interactional infrastructure for the achievement of coordination and collaboration among co-present individuals (Jordan & Henderson 1995).

We asked analytical questions to the data material based on SI, such as: How do they influence each others behaviour? How do they resist the identities that others impose on them? What characterizes the participants’ orientation in the meaning making and who forms alignments with whom? How do healthcare providers and parents make their engagement (or lack thereof) visible to each other? The foci of participant structure and turn-taking, together with the perspectives on situational meaning from SI helped to identify roles and emerging patterns in the situations.

Rigour

The video recording permitted watching the situation several times by coauthors with different backgrounds, which helped ensure interpretative rigour (Rice & Ezzy 1999). The triangulation of video, transcripts and notes added to the trustworthiness of the study (Rice & Ezzy 1999). The first author was present and wrote field notes during the video recordings enabling documentation of the setting and incidents outside the camera angle. The first author has had a professional role as a nurse in a similar setting and situations. This might produce unconscious anticipation regarding the phenomenon. However, experience with the phenomenon may also facilitate tolerance and sensitivity to these emotionally challenging situations.

Findings

Through the described analysis, we identified three patterns of interaction between parents and healthcare providers. A new pattern occurred as time passed, the number of attempted PVCs increased and the child’s resistance continued. In the following, the different patterns are presented by first introducing an example of an interaction, followed by an interpretation and the observations and interpretations across situations.

Parents support the interaction initiated by healthcare providers

The interaction in Table 2 is from the beginning of a situation where a boy refused the procedure and was unwilling to take his arm out of the sleeve. The nurse unpacked the equipment in the corner of the room and the physician prepared to perform the needle insertion. The boy had already rejected several invitations and suggestions from his mother, the nurse and the physician. The excerpt shows how the mother and the physician interacted to make the child cooperate.

The excerpt shows how both the physician and later the mother ignored the child’s input in the interaction. The child took his turn in the interaction, but his attempts to be noticed in the situation were not acted on. The child, in turn, resisted interacting on the adults’ terms and definition. The physicians’ restrictive question about dinner was directed at the child, but the mother answered the question on the child’s behalf. The physician initiated this topic of everyday matter and the mother accepted the physician’s suggestion by following up on the normalizing friendly topic. The adults in the excerpt alternated in commanding the child to cooperate and participating in interaction on distractive topics. The child refused to participate in the talk on the intended terms and instead used the topic as a pretext to support his protest by claiming he needed food. A break in the normalizing friendly interaction was introduced by the mother when she instructed the child to direct his hand to the physician. By this turn, the mother took responsibility for making the child cooperate. The break redirected the focus to the instrumental enabling and the overall intention of the interaction: the insertion of a cannula to arrange for disease treatment. In the excerpt, the adults avoided acknowledging the child’s attempts to set the agenda.

Across the collected observations, the healthcare providers initiated and tried to keep an unworried, friendly, normalizing interaction throughout most of the procedure. The parents supported and followed up on the healthcare provider-initiated interactions; the parents only sometimes took initiative to instruct or make demands toward the children. Most of the children, kept on expressing resistance despite these approaches, which in turn resulted in a less fluent turn-taking between the adults.

When the friendly, unworried conversation between the adults took place simultaneously with the physical restraint of the protesting children, the parent typically held the torso and one limb still, while the nurse held the limb that the physician inspected for insertion. When the child’s resistance continued during restraint, the interaction also included reassurance and redefinition. For example one physician said, after grabbing the child’s hand, ‘No, no, I am just going to borrow your hand, I am not going to do anything painful!’ Some parents followed up on this reassurance. Another way of redefining restraint was by saying: ‘No, no, now we are going to help you to hold your arms...
still.’ Instead of responding to the message of child resistance, they seemed to redefine it as a child’s call for help to keep the arm immobilized. The parents acted on these definitions and kept a firm grip on their children to keep them immobilized.

The content of the parent–healthcare provider interactions seemed to involve the child, but the healthcare provider’s definition dominated and parents supported this. The parents switched between responding to the healthcare providers on the child’s behalf or to the child on the healthcare providers’ behalf when directing commands and requests to the child; however, the meaning of the child’s messages of resistance was left unattended.

Parents create distance in interaction with healthcare providers

The interaction in Table 3 is from a situation where a father had, until the excerpt starts, answered on behalf of the child to support the physician’s distraction attempts. Now, after two failed attempts to place a needle into the vein, in the middle of the third attempt, the father seemed unwilling to continue the turn-taking with the healthcare providers, avoided eye contact with the physician and his face had a stiff expression.

The excerpt exemplifies how the physician struggled to continue a previous interaction with the father similar to the interaction in the pattern of ‘parents support the interaction initiated by healthcare providers’. The father did not answer and, in a short time span, the physician asked several questions. The child continued not to answer inquiries from the physician. The father refrained from answering on his child’s behalf and thereby marked a break in the support of the physician’s approach. After the sixth question, the father gave a short answer. The shortness was marked by his immediate shift in attention to a comforting phrase directed to the child and not acknowledging the physician’s attempt at eye contact.

Parent’s obstructions, or reluctance to continue the interaction on the healthcare providers’ terms, were identified across the data. The parents distanced themselves from the healthcare providers in ways that included cessation of the parents’ posting of demands, encouragements and requests toward the child; it was, therefore, also seen in the situations where the children expressed less resistance. The distancing in interaction could be passive, as demonstrated in Table 3, or more actively pronounced. For example, a mother, following three attempts with the use of full body restraint by healthcare providers and herself, said that she could never ‘stick needles in children’. Another parent, after two failed attempts, asked if it was more difficult to perform PVC on children than adults.

The distancing in parent–healthcare provider interaction also became visible in the use of physical restraint with the child; the allocation of the restraint was negotiated, based on how willing the parent was to maintain a firm grip. For the parents, this willingness seemed to be

| Participant | Verbal | Non-verbal |
|-------------|--------|------------|
| Physician   | May I have a peek underneath the pad? | The physician sits on a chair turned against the mother and the boy. Her tone of voice is light and friendly at the end of the question asked. The boy is situated on his mother’s lap and his mouth corners are turned down with wrinkles on his forehead. He looks down on his sleeves where his hands are hidden inside. Light voice. |
| Child       | Noooo. | Staring obliquely at the floor and does not respond. Mother is looking at the boy while she is responding, like she is answering on behalf of the boy and checks whether he agrees or not. Physicain’s tone and voice is surprised and “impressed”. Light, powerful, enthusiastic voice, as if something nice suddenly came to her mind. |
| Physician   | What are you going to eat after this then? | I guess it is stew, then. |
| Child       | | |
| Mother      | So, maybe we can have ice-cream for dessert? Shall we? | Pronounced slowly and determined. Short, commanding voice. |
| Child       | I want to eat now! | Commanding voice |
| Physician   | We’re eating afterwards. | Child pulls both hands closer to his body |
| Mother      | Give her the hand, Marcus, so that she can look at it. | |
reduced after more than two failed attempts. The parents did not stop restraining the child, but they seemed to let go of the child’s arms and legs more easily. Following this unwillingness, the performance of restraint became more physically challenging for the nurses and the insertion of the PVC more difficult to accomplish for the physician.

**Healthcare providers reorient in interaction**

The interaction in Table 4 is from a situation following continued parental distancing and exemplifies the healthcare provider’s responses to this. The parent in the excerpt stopped talking and held her girl without looking at her; instead she looked at the ceiling. Two nurses helped hold the child still; one held her feet and the other the targeted arm, while the physician handled the needle and additional equipment.

The excerpt exemplifies how the physician and nurse took turns in a positive and friendly interaction, detached from the distanced parent and the resisting child. They responded to the child’s cry and protesting sentences with a normalizing talk about nail polish, while preparing and enabling needle insertion. The healthcare providers did not wait for a reply from the child or parent. The mother had withdrawn from verbal interaction with healthcare providers and did not answer the child’s uttering either. The mother however, still participated in restraining the child. The healthcare providers themselves took over the parent role, illustrated in the pattern of ‘parents support the interaction initiated by health care’.

Across the data, the distancing of parents led to two different variations of interaction between the healthcare providers. In the variation demonstrated in Table 4, the healthcare providers followed up on each other’s initiatives as they praised or flattered the child. The phrases typically used in an encouraging voice, were: ‘you are such a good girl,’ or, ‘we are nearly done.’ A second variation was an absence of verbal interaction in the healthcare provider team while they focused only on the technical performance of the procedure. In these situations, the child’s uttering of discomfort or resistance was responded to with restraint. In both variations, they overlooked the parents’ distancing expressions like closed eyes or eyebrow-lifting.

After the insertion was done and the procedure was coming to an end, some healthcare providers attempted to reestablish an interaction with the parents. To facilitate this, they could direct questions toward the parent in a flirting voice or make jokes. Another approach was to engage the parent by addressing ‘adult’ topics like difficulties in sleeping in patient rooms with multiple beds or asking whether or not they had been waiting for a long time. These initiatives made the parents answer as themselves and restart the interaction with healthcare providers again.

**Discussion**

The results from this study showed how parent participation changed throughout the PVC situation, from being supportive of the healthcare providers’ approaches to distancing themselves in the situation. In the pattern, ‘parents support the interaction initiated by healthcare providers’,...
the parents seemed to cooperate in accordance to the norm of being ‘a responsible parent,’ because they took actions to make their children ‘behave’. To be a responsible parent may mean to cooperate with healthcare providers and to ensure that the child gets the medical aid needed to get well (Coyne & Cowley 2007). Parents acted according to the healthcare provider’s invitations and instructions in the situation by engaging the ongoing interaction and answering on their child’s behalf. This interaction seemed to be initiated by the healthcare providers and not by the parent. Applying the perspective of SI, the parents are able to interact in this way with healthcare providers because they – at least temporarily – share the same intent (Blumer 1969, Benzies & Allen 2001). However, most of these parents may have little experience with parenting during a forced procedure and can therefore still be ambivalent and insecure about their role.

In the pattern ‘parents create distance in interaction with healthcare providers’, the parents no longer supported the healthcare providers’ actions. Consistent with Cast (2003), an interpretation of this is that the parents gradually disagree with the healthcare provider’s actions that defined the situation as ‘any other everyday happening’. While it is an important parental mission to provide the child with medical aid, it is an equally important mission to be a responsible parent by supporting and comforting your child emotionally during hospitalization (Ygge & Arnetz 2004).

Table 4 Excerpt of interaction pattern 3.

| Participant  | Verbal                                      | Non-verbal                                      |
|--------------|---------------------------------------------|------------------------------------------------|
| Nurse        | Oh look at your foot!                       | Excited voice, grabbing hold of the child’s feet.|
| Child        | Not, not, not, nohohoho.                    | Mother shuts her eyes and faces the ceiling, holding the child loosely around the torso and arms.|
| Mother       |                                             | Acts surprised by the girl’s toes. Spoken in a light, positive, friendly manner. The nurse point to the child’s toes then looks up into the child’s face and smiles, while the physician is inspecting the feet. |
| Nurse        | Ohhh! Such nice toes you got there! Maybe I shall find some nail polish for you later? Hm? | Looking away and wriggling to loosen the nurses’ tight grip of her foot. |
| Child        | Ouch...no!                                  | Mother now looks to the ceiling, with tense facial expression. |
| Mother       | Maybe Samira* is going to polish your nails? Hm? | Enthusiastic voice, while examining the child’s foot, a needle in the right hand. |
| Physician    |                                             | Mother keeping tense facial expression, looking away. |
| Child        | Ouch, oouch oouch No oo oo.                 | The child still cries continuously in arrhythmic voice and keeps stiffness in body. Moving her foot a bit. |
| Mother       |                                             | Keeping positive tone, gripping harder around both of the child’s feet which are not being examined. |
| Nurse        | What might big sister then say when you come home with nail polish on? | Keeping positive tone, gripping harder around both of the child’s feet which are not being examined. |
| Child        | No, no, no Mummy!                           | Smiling and nodding, not seeking eye contact. |
| Physician    | Oh that will be great.                      |                                                  |

*Pseudonym.

The parent’s distancing from the healthcare providers could be a result of colliding norms and an unexpected development of the situation. Earlier research indicates that parents do not fully take the child’s side during procedures (Hallstrom et al. 2002, Runeson et al. 2002). We suggest that the observed interactions indicate that the parents tried to represent the child’s side when they stopped their support to the healthcare providers during procedures. Considering that this sign of parental disapproval is posed from a position with relatively little power to control the situation, the disapproval appears quite strong. This might also indicate distrust in the healthcare providers’ abilities to perform the procedure after several failed attempts. As pointed out by Karlsson et al. (2014), parents’ ability to be supportive to their children could be affected when seeing their child undergo procedures. Holding back support might signify that their trust crumbles. When the child seems to suffer and expectations of healthcare providers’ technical skills are unmet the development of trust is difficult (Murray & McCrone 2015). The parents’ change in participation can be understood as a negotiation on the priority of competing norms and definitions of meaning in a difficult and emotional situation.

Most healthcare providers sustained an ongoing interaction on everyday matters during the first part of the procedure, in addition to reassuring the child and redefining the use of restraint, defining the situation as an everyday...
happening. This redefinition can be a way to exercise professional responsibility or power to fulfil the goals of the situation. Consistent with Cast (2003), healthcare providers observed in this study might impose this meaning on the situation. This approach is similar to the use of ‘non-procedural talk’, ‘distraction’ or ‘distractive talk’, earlier identified to promote coping for some children during procedures (Blount et al. 2008, Uman et al. 2008, Nilsson et al. 2013). The healthcare providers’ instrumental performance seemed, however, detached from some of their talk. The talk might also be interpreted as a reply to the child’s resistance and later the parent’s distancing, for example: ‘you exhibit abnormal resistance to normal procedures in what is actually an everyday situation’. Therefore using these approaches, the healthcare providers may work to define themselves as a particular type of person, for example, a professional that normally performs these procedures. Cast (2003) maintains that people might both behave in ways consistent with their identity and resist identities that others, in turn, seek to impose on them. The professional identity that healthcare providers act in accordance to, can be described as friendly, caring and reassuring about doing no harm, even when having to use restraint. To be caring and friendly are professional values of nursing and medicine, linked to social expectations and internal standards and ideals in the profession (Beauchamp & Childress 2013).

The healthcare providers’ use of an ongoing distractive interaction can be understood as a continuous way to downplay that they may be violating the principles of non-maleficence (by inflicting distress, pain and anxiety) and autonomy (not acknowledging consent). Instead they attempt to tie their actions strongly to the principle of beneficence and the goal of the procedure: to provide medical treatment for the child for it to get well. The interactions might also be grounded in an unclear legal situation; that coercive treatment to minors is not regulated explicitly in the Norwegian health law. In general, beneficence and parental consent are considered important, thus aligning with these principles is probably central to the professionals.

Limitations

Three children expressed more resistant than the others and the excerpts are collected from these PVC-attempts. However, observations from all attempts were included and informed the analysis and allowed for a nuanced description of the pattern of interaction. A larger sample of PVC-attempts with more children included might have resulted in more diverse findings. We therefore suggest that the described patterns of interactions are preliminary. Fifteen healthcare providers and eight parents/relatives interacted in the 14 attempts. This contributed to multiple numbers of interactions to include in the analysis.

Nurses and physicians were studied together, using the term ‘healthcare providers,’ deliberately not investigating how the relationship between them may alter communication with the parents. The quality of inter-professional collaboration affects care for children and parents but this must be explored in additional studies.

The skill level of PVC inserters might influence the number of attempts needed to place a cannula and the development of patterns of interaction. In our study, most physicians had hospital experience between 2 and 6 years. Technical skills are not only vital but also skilled healthcare providers may encounter resistance from children where additional PVC-attempts are needed.

The presence of a researcher and the use of video recording might cause the participants to act and interact in a different way. Some were asked about how the camera affected them and one physician stated that the presence of the camera caused distress and that she was constantly aware of it. Others said they forgot about the camera after a while. Gestures and body positioning may be difficult to manipulate and control for any length of time (Jordan & Henderson 1995). It is possible that the camera distressed the physicians, resulting in missed veins. Failed attempts are, however, common (Crellin et al. 2011).

Conclusion

This paper identified three patterns of interaction on how healthcare providers and parents interact when managing preschool children’s resistance to PVC. The patterns indicate that healthcare providers and parents may develop different definitions of situational meanings and that they may disagree on the role of the parent. Although the benefit of parental presence is established, whether they also should participate in restraining the child is debatable. More research is needed to understand what kind of parental role might benefit the child and parents the most in the situation.

Our results identify a very challenging and unpredictable situation for healthcare providers when they risk to lose parental cooperation in the middle of a difficult procedure. This knowledge can help clinicians to better prepare for interactions, where parents take or are given the role as ‘helpers’ for healthcare providers. Parents can have difficulties in keeping a firm grip when the child’s resistance is
massive throughout the procedure. If the parents do not think they can manage this, it might be better for all that healthcare providers suggest they take a comforting role only. Finally, these are preliminary patterns and further research should investigate the appropriateness of these findings in larger samples. When interacting with parents, education, for example about what may happen if the child resists the procedures or the professional fails, can be a way to inform and negotiate about different roles during medical procedures. This in turn can be used to make more informed decisions about what role fits the family best.

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Conflict of interest

No conflict of interest has been declared by the authors.

Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (http://www.icmje.org/recommendations/)]:

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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