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Experiencing Support During Needle-Related Medical Procedures: A Hermeneutic Study With Young Children (3–7 Years)

Katarina Karlsson PhD[a,*], Ann-Charlotte Dalheim Englund PhD[a], Karin Enskär[b], Maria Nyström[a], Ingela Rydström PhD[a]

[a]*Faculty of Caring Sciences, Work Life and Social Welfare, University of Borås, Borås, Sweden*
[b]*Department of Nursing Sciences, CHILD Research Group, School of Health Sciences, Jönköping University, Jönköping, Sweden*

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Background Needle-related medical procedures (NRMPs) are something that all young children need to undergo at some point. These procedures may involve feelings of fear, pain and anxiety, which can cause problems later in life either when seeking healthcare in general or when seeking care specifically involving needles. More knowledge is needed about supporting children during these procedures.
Aim: This study aims to explain and understand the meaning of the research phenomenon: support during NRMPs. The lived experiences of the phenomenon are interpreted from the perspective of younger children.
Method: The analysis uses a lifeworld hermeneutic approach based on participant observations and interviews with children between 3 and 7 years of age who have experienced NRMPs.
Results: The research phenomenon, support for younger children during NRMPs, is understood through the following themes: being the centre of attention, getting help with distractions, being pampered, becoming involved, entrusting oneself to the safety of adults and being rewarded. A comprehensive understanding is presented wherein younger children experience support from adults during NRMPs in order to establish resources and/or strengthen existing resources.
Conclusions: The manner in which the child will be guided through the procedure is developed based on the child's reactions. This approach demonstrates that children are actively participating during NRMPs. Supporting younger children during NRMPs consists of guiding them through a shared situation that is mutually beneficial to the child, the parent and the nurse. Play during NRMP is an important tool that enables the support to be perceived as positive.

IN CARE ENVIRONMENTS, children may become stressed by their unfamiliar surroundings and by unpredictable stress factors (Salmela, Aronen, & Salanterä, 2011), such as fear due to unfamiliar people, strange equipment and an unrecognizable environment. Children are vulnerable to such factors (Lindeke, Nakai, & Johnson, 2006), which is partly due to the child's cognitive development level. Due to the child's fantasy, which dominates thinking among children aged 3–7 years (Bibace & Walsh, 1980), the child may fear health care in general (Salmela, Salanterä, & Aronen, 2009; Salmela et al., 2011), and needles in particular (Kettwich et al., 2007; Salmela et al., 2009; Salmela et al., 2011; Taddio, Ilersich, Ilersich, & Wells, 2014). Despite these feelings, children must undergo different medical procedures during childhood, and needle-related medical procedures (NRMPs) are common (Blount, Piira, Cohen, & Cheng, 2006; Uman, Chambers, McGrath, & Kisely, 2006; Uman et al., 2013). In this present study, NRMPs are diagnostic needle-based procedures that aim to prevent and treat illness (c.f. Uman et al., 2006, 2013).

* Corresponding author: Katarina Karlsson, PhD.
E-mail address: katarina.karlsson@hb.se.

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Research shows that younger children perceive NRMPs as painful and frightening experiences (Karlsson, Rydström, Nyström, Enskär, & Dalheim Englund, 2015). Sixty-three per cent of children and 24% of parents state that they are afraid of needles (Taddio et al., 2012), and it seems that the actual needle stick can be intensified due to this fear (Bird & McMurtry, 2012). If the child has had a previous painful and/or frightening experience during needle procedures, this could act as a distress factor and complicate the current procedure (Noel, McMurtry, Chambers, & McGrath, 2010). Experiencing feelings of fear and pain can also cause problems in the future in relation to NRMPs as well as health care in general (McMurtry et al., 2015).

In a study by Salmela, Salanterä, and Aronen (2010a) and Salmela, Salanterä, Routsalainen, and Aronen (2010b), semi-structured interviews were used to identify children's coping strategies for hospital-related fears. The most prominent coping strategies among children were having their parents present (Salmela et al., 2010a) and being reminded of things from their everyday life, such as playing (Salmela et al., 2010b). Lindeke et al. (2006) interviewed children using three open-ended questions and found that the worst things about being hospitalized were related to "shots" and painful procedures. Other consequences from NRMPs that were described by children included seeking security, realizing the adult's power, struggling for control, feeling ashamed and surrendering. These findings were obtained through meaning-oriented interviews and participant observations (Karlsson et al., 2015). Harder, Christensson, Coyne, and Söderbäck (2011) used video-observations and found that children need to be active participants during vaccination using strategies of "tuning-in, affirmative negotiation, and delaying negotiation" (p. 818). Söderbäck (2013) also used video-observations and found that children use different expressions to convey their experiences during venepuncture, such as "watchful engagement, curious engagement, and adaptive engagement, as well as avoidance, forced engagement and resigned engagement" (p. 636). In a study with older children (6–15 years) interviews were performed by asking them about feelings (sadness, fear, anger and happiness). The results showed that hospitalized children also experience feelings of positive character in contact with health care staff. This is described as happiness which would enhance the link between children and health care staff (Corsano et al., 2015).

The support given by healthcare professionals during NRMPs can be divided into pharmacological, non-pharmacological or merged types (Blount et al., 2006). Pharmacological support can be offered through topical anesthesia (Abuelkheir et al., 2014; Lander, Weltman, & So, 2006; Shah, Taddio, & Rieder, 2009) and/or by inhaled nitrous oxide (Ekbom, Jakobsson, & Marcus, 2005; Zier, Tarrago, & Liu, 2010). Non-pharmacological support can be provided by staff and/or parents, although, as McCarthy and Kleiber (2006) point out, not all parents are capable of helping to distract their child in a good way. It is also important to be aware that what helps one child will not necessarily help another. Therefore, it requires a customized approach to determine the most appropriate pharmacological and/or non-pharmacological actions that suit the individual child (Coyne & Scott, 2014). Examples of non-pharmacological support include distraction and hypnosis, all of which have shown the best results when used by nurses (Taddio & McMurtry, 2015). Additional examples of non-pharmacological support during NRMPs include squeezing a soft ball during intravenous catheter insertion (Sadeghi, Mohammadi, Shamshiri, Bagherzadeh, & Hossinkhani, 2013); blowing soap bubbles or using a heated pillow (Hedén, von Essen, & Ljungman, 2009); watching an animated film (Yoo, Kim, Hur, & Kim, 2011) or looking at distraction cards (Inal & Kelleci, 2012). Gaskell, Binns, Heyhoe, and Jackson (2005) summarized these types of support as "breathing techniques, relaxation techniques, books, games and puzzles, imagery and make believe, sensory experiences, and positive reinforcement" (p. 26). Overall, these studies show positive results regarding reducing pain, fear and anxiety in children undergoing NRMPs.

In the last few years, an increasing number of studies have given voice to children's thoughts and feeling about being hospitalized. However, few studies have been based on younger children's experiences about illness, treatment and medical procedures (Irwin & Johnson, 2005; Kortesluoma & Nikkonen, 2006; Kortesluoma, Nikkonen, & Serlo, 2008). Instead, a proxy, such as parents or nurses, has often been used (c.f. Hedén et al., 2009; Hedén, von Essen, & Ljungman, 2015; Jonas, 2003; Twycross, 2002; von Baeyer & Spagrud, 2007). As there is reason to believe that younger children are more vulnerable during needle procedures and therefore may need a different kind of support compared to older children, it is important to ask the younger children (3–7 years) themselves in order to further understand how adults can help them during these procedures. Therefore, the aim of this study is to explain and understand the meaning of support during NRMPs from the perspective of younger children.

Methods

Approach

This study is interpretative in order to reach an in-depth understanding of the research phenomenon (i.e. support during NRMP) as a lived experience (hereafter called *the phenomenon*). The theoretical framework is lifeworld hermeneutics, and it aims to understand the phenomenon from young children's perspective, not to create evidence in terms of testing a hypothesis (Dahlberg, Dahlberg, & Nyström, 2008).

Lifeworld research requires an open attitude to the phenomenon throughout the entire research process, which is indeed easier said than done. It can be clarified as the efforts undertaken to hold back what one knows or thinks that one knows. The German philosopher Hans-Georg Gadamer (1960/2004) emphasized that a researcher must try to ignore his/her pre-understanding in order to see something new and different. In hermeneutics, it is customary to view Gadamer's (1960/2004) philosophy as a basis for the openness that is required in a lifeworld hermeneutic approach.

However, the process of interpretation also includes the distancing, questioning and critical approach advocated by