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Consequences of Needle-Related Medical Procedures: A Hermeneutic Study With Young Children (3–7 Years)

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Background Needle-related medical procedures (NRMPs) are often frightening and cause children anxiety and pain. Only a few studies have examined the perspectives of younger children. More knowledge is needed about younger children's experiences in caring situations such as NRMPs.
Aim: The aim of this study was to explain and understand the consequences related to NRMPs from younger children's perspectives.
Methods: Participant observations and interviews with younger children who had experienced NRMPs were analysed using a lifeworld hermeneutic approach.
Results: Experiencing fear is central for younger children during an NRMP and interpretation of its consequences formed the basis for the following themes: *seeking security, realizing the adult's power, struggling for control, feeling ashamed,* and *surrendering.* A comprehensive understanding is presented wherein younger children's experiences of NRMPs vary across time and space related to weakening and strengthening their feelings of fear.
Conclusions: Awareness is needed that adults' power becomes more obvious for children during an NRMP. Children's surrender does not necessarily imply acceptance of the procedure. Providing children with opportunities to control elements of the procedure creates a foundation for active participation, and vice versa.

CHILDREN ARE A vulnerable group in society (Hewitt-Taylor & Heaslip, 2012); they are also vulnerable when they need care as patients (Coyne, Hayes, & Gallagher, 2009). Medical procedures have been found to cause fear, anxiety and pain (Blount, Piira, Cohen, & Cheng, 2006; Ives, 2007; Young, 2005).

The child's previous experiences of health care are vital because it can either increase or decrease the child's fears in relation to needle-related medical procedures (NRMPs). Earlier painful experiences can act as factor of distress (Noel, McMurtry, Chambers, & McGrath, 2010; von Baeyer, Marche, Rocha, & Salmon, 2004). Children between 3–7 years of age may perceive health care as something to fear since fantasy tends to dominate their thinking. Children may fear needles because of their undeveloped sense of body integrity, and they may also fear mutilation. They may perceive needle procedures as a punishment for doing something wrong (Bibace & Walsh, 1980; Koopman, Baars, Chaplin, & Zwinderman, 2004; LeRoy et al., 2003).

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Researchers have noted that there has been a lack of research on the perspectives of younger children as patients (Irwin & Johnson, 2005; Kortesluoma & Nikkonen, 2006; Kortesluoma, Nikkonen, & Serlo, 2008); instead, research has focused on the perspectives of professional caregivers or parents (Jonas, 2003; Twycross, 2002; von Baeyer & Spagrud, 2007). However, recently the voices of younger children have been better represented in research showing that some interventions, such as injections and other needle procedures, cause them to feel fear (Kettwich et al., 2007; Salmela, Salanterä, & Aronen, 2009; Taddio et al., 2012). Children also experience the fear of pain, fear born of fantasy, fear due to a lack of information and fear of unfamiliar environments (Salmela, Aronen, & Salanterä, 2011; Salmela et al., 2009), as well as the fear of being separated from their parents (Aldiss, Horstman, O'Leary, Richardson, & Gibson, 2009; Salmela et al., 2011; Salmela et al., 2009). Bird and McMurtry (2012) and Cullone (2000) describe patterns of fear development. Bird and McMurtry (2012) describing children's fear as "a form of a negative affect that has been defined as a reaction to a real or perceived threat and is considered an adaptive part of child development" (p. 527). Negative events, such as being afraid, may increase the perception of pain (Bird & McMurtry, 2012).

In this present study, investigations or actions involving needles are defined as NRMP. These procedures are used to prevent illness, for diagnostic purposes and to perform treatment (c.f. Uman et al., 2013; Uman, Chambers, McGrath, & Kisely, 2006).

In Sweden, parents' attendance and participation are considered vital when younger children are afraid and in need of care (c.f. European Association for Children in Hospital (EACH) [EACH], 2006), and caring actions have been found to be characterized by attendance and participation (Karlsson, Dalheim Englund, Enskär, & Rydström, 2014; Karlsson, Rydström, Enskär, & Dalheim Englund, 2014). National NRMP guidelines in Sweden advocate for combining treatment with a positive caring approach (Medical Products Agency, 2014).

Knowledge of younger children's experiences of health care, particularly in relation to actions that may cause them fear, anxiety or pain, is needed to further understand their reactions. There is a gap in the literature concerning the consequences of NRMPs from the perspective of younger children's experiences. Thus, this study sought to give children in the 3–7 year age group a voice so they can share their experiences; ultimately, its goal is to improve care during NRMPs. Therefore, the aim of this study was to explain and understand the consequences related to NRMPs from younger children's perspectives.

Methods

Design

A lifeworld hermeneutic approach inspired by Gadamer (2004) and Ricoeur (1976), as suggested by Dahlberg, Dahlberg, and Nyström (2008), was chosen for this study. This approach builds on a lifeworld perspective by addressing the phenomenon which is the consequences related to NRMP as experienced by younger children in Swedish health care.

According to Dahlberg et al. (2008), lifeworld research requires the researcher to maintain an open and critical approach throughout the entire research process. No predetermined hypothesis or other interpretive foundations are established in advance. Therefore, the research team in this study practiced openness towards the phenomenon and tried, as much as possible, to avoid influences from previous experiences and knowledge. Attention was focused on what was unexpected in the data, what Gadamer (2004) calls "the otherness." This means being aware of one's own pre-understanding in order to be able to see what is new regarding the phenomenon instead of only confirming what one already knows. In order to suggest explanations for latent meanings in the data, tentative explanations were validated against specific criteria (Ricoeur, 1976), which are described below.

Children as Participants

Data collection was conducted at four different pediatric health care settings located in south-western Sweden: a pediatric primary care services unit (caring for children with different medical diagnoses); a pediatric inpatient care unit (one unit divided into two departments that care for children with all diagnoses); a pediatric outpatient care unit (caring for children with all diagnoses except ongoing infections); and a pediatric specialist clinic (caring for children with different medical diagnosis). All four units treated patients up to the age of 18. Twenty-one children participated in the study. They were recruited by nurses working in these settings in the immediate days before the NRMP or on the day of the procedure. The inclusion criteria were: the children had to be aged 3–7 years, they had to participate in an NRMP, they had to understand and speak Swedish, and their parents and nurses had to have given informed consent. Children with an acute or life-threatening illness at the time of the NRMP were excluded from the study. The 21 children who participated in the study varied in terms of their age, diagnosis and sex and they all had a variety of experiences related to NRMPs (Table 1).

Data Collection

Data collection was performed through participant observations documented as video-recorded observations and/or field notes as well as meaning-oriented interviews that were audio recorded and transcribed verbatim.

Data collection began when the child entered the room where the NRMP was to be performed. During the NRMP, the observer stood behind the camera without directly participating in the procedure but answered questions or assisted if needed. Field notes were written immediately after the NRMP was completed.