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HOSPITAL-RELATED FEARS AND COPING STRATEGIES IN 4-6-YEAR-OLD CHILDREN

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ACADEMIC DISSERTATION

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CONTENT

Abstract

Background.

There is only little information available on the 4-6-year-old child's hospital-related fears, and on the coping with such fears, as expressed by the children themselves. There is also lack of information about children's experience of hospital-related fears and coping with the fears. However, previous data collected from parents and hospital personnel indicate that hospitalization is an anxiety-producing experience for young children.

Aim.

The purpose of this study was to describe the experience of hospital-related fears and the experience of coping with hospital-related fears of 4-6-year-old children. The aim of this study was to form a descriptive model of the subjective experience of hospital-related fears and coping strategies of 4-6-year old children.

Method.

The data were collected by interviewing 4-6-year-old children from a hospital and kindergarten settings in Finland from 2004 to 2006. Ninety children were interviewed in order to describe the hospital-related fear and the experience of fear, and 89 to describe their coping with the fear and the experience of coping. The children were chosen through purposive sampling, in which volunteers were asked to take part in the study. The data were gathered by semi-structured interview, supported by pictures. The data about hospital-related fears and on strategies for coping with hospital-related fears were reviewed by qualitative and quantitative methods. The data were entered onto a SPSS database and subjected to frequency distributions, Chi-square analysis, and Mann-Whitney U tests. The experience of hospital-related fears and coping with these fears were analyzed using Colaizzi's Method of Phenomenological Analysis.

Results.

The results revealed that more than 90 % of the children said they were afraid of at least one thing in hospital. Most of the fears could be categorized as nursing interventions, fears of being a patient, and fears caused by the developmental stage of the child. Children interviewed in the hospital expressed substantially more fears than children interviewed in kindergarten. Children's meanings of hospital-related fears were placed into four main clusters: 1) insecurity, 2) injury, 3) helplessness, 4) and rejection. The results also showed that children have plenty of coping strategies, to deal with their fears, especially such strategies in which the children themselves play an active role. Most often mentioned coping strategies were 1) the presence of parents and other family members, 2) the help of the personnel, 3) positive images and humour, 4) play, and 5) the child's own safety toy. The children interviewed in the hospital mentioned statistically significantly more often play, positive imagination and humour as their coping strategy than children interviewed in kindergarten. The children interviewed in kindergarten expressed the presence of parents and the help of the doctor as their strategy for coping statistically significantly more often. The

meaning of coping with hospital fears consisted of six clusters: pleasure, security, care, understanding the meaning of the situation, participating, and protecting oneself.

Conclusions.

Being admitted to a hospital is an event which may increase the fears of a 4-6-year-old child. Children who have personal experience of being admitted to a hospital describe more fears than healthy children in kindergarten. For young children, hospital-related fear can be such a distressing experience that it reflects on their feelings of security and their behaviour. Children can sometimes find it difficult to admit their fear. Children need the help of adults to express their hospital-related fears, the objects of the fears, and to cope with the fears. Personnel should be aware of children's fears and support them in the use of coping strategies. In addition to the experiences of security and care, pre-school-aged children need active coping strategies that they can use themselves, regardless of the presence of the parents or nurses. Most of all, children need the possibility to play and experience pleasure. Children can also be taught coping strategies which give them an active, positive role. More research is needed to test the descriptive model of hospital-related fears and coping strategies of 4-6-year-old children. Also tools and clinical guidelines for identifying children's hospital-related fears are needed, and means of teaching the children to find new coping strategies.

This thesis is based on the following original articles referred to in the text by Roman numerals I-IV:

Original publications

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Publication I:
Child reported hospital fears in 4 to 6-year-old children.
Salmela Marja MNSc, RN., Salanterä Sanna PhD, RN., Aronen Eeva T. M.D., PhD
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Publication II:
Coping strategies for hospital-related fears in pre-school-aged children
Marja Salmela, MNSc., RN, Sanna Salanterä PhD, RN., Taru Ruotsalainen, PhD., RN, Eeva T. Aronen, M.D., PhD.
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Publication III:
Coping with hospital-related fears: experiences of pre-school-aged children
Marja Salmela, MNSc., RN, Sanna Salanterä PhD, RN., Eeva T. Aronen, M.D.
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Publication IV:
A qualitative study of 4-6-year-old children's hospital-related fears
Marja Salmela, MNSc., RN, Eeva T. Aronen, M.D., Sanna Salanterä PhD, RN.
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1. Introduction

There were 891192 children under 15 years of age in the Finnish population in 2008 (Tilastokeskus 2009). Young children form one of the main user groups of health care services. At the age of six, all Finnish children have experiences of health care services at least through child welfare clinics, and probably through visits to a doctor or dentist. In 2007 there were 71990 children under 15 years (mean age: 4 years) who were admitted to hospital in pediatric special care in Finland (Stakes 2008, Rajantie & Perheentupa 2005). Then, the subject of the experiences of children in health care services is also important from a social viewpoint.

The right of children to express themselves and participate in decisions that affect them is declared in several international and national acts and guidelines (United Nations 1989, Decree on Enforcement of the Convention on the Rights of the Child 1130/1991, Council of Europe 1996, 1997, Act 785/1992, Act 1221/2004, Act 72/2006, Act 417/2007). This principle, while not new in health care research, has not greatly influenced research pertaining to children. Research with children tends to be a process that is devised by adults, and applied to children with results interpreted by adults (Birbeck & Drummond 2007, Battrick & Glasper 2004).

Knowledge about pre-school-aged children´s hospital-related fears and coping with fears is mostly based on the information given by parents or nurses and covers fear experienced in a certain operation or situation in nursing care (Brewer et al. 2006, Pelander et al. 2006, Hallström & Elander 2004, Mahajan et al. 1998, Coyne 1998). Because of the immaturity of young children, they have often been underestimated as reporters of their own well-being, or have been considered as unreliable informants (Coyne 2006, Coyne 1998). However, a pre-school-aged child wants and is able to express and discuss his or her own experiences. A good way to get information about children's fears and coping strategies is to ask the child him/herself about them. It is not possible to understand the experiences of a child without including his/her self report. (Lahikainen et al. 2006, Pelander et al. 2006, Irwin & Johnson 2005, Pelander & Leino-Kilpi 2004, Miller 2003, Beidler & Dickey 2001, Coyne 1998).

This subject is important because a population particularly vulnerable to the effects of stress and fear during hospitalization consists of pre-school-aged children (McGrath & Huff 2001). Pre-schoolers may experience several hospital-related fears and ongoing posttraumatic stress responses during the hospitalization and post-discharge (Proczkowska-Björklund 2004, Rennic et al. 2002). Hospitalization, and other frightening or traumatic experiences in childhood may also increase the risk of health problems later in life (Kopec & Sayre 2004, Rees et al. 2004, Rennic et al. 2004), and delay the child's cognitive, physical, emotional, and social development (Aley 2002).

In order to support a child in hospital it is essential to know the child´s possible hospital-related fears, to understand the experience of the fear to the child, as well as to understand what are the individual coping strategies of the child, and what is the child's experience of coping. Children who are able to cope with their fears and have support throughout their hospitalization recover more quickly and have fewer emotional problems, such as separation anxiety and sleep disturbances (Justus et al.

2006). These children will often need less medication for pain and sedation, heal faster and return home sooner. On a practical level, the operation can also be performed more quickly, smoothly and with fewer personnel, which makes it easier for both the child and the parents (Walworth 2005, Mahajan et al. 1998, Kristensson-Hallström et al. 1997, Kain et al. 1996). Interventions designed to help the children cope with their fears during hospitalization are not only likely to decrease their stress at the time of hospitalization, but are also likely to influence how their future experiences are appraised and managed (Coyne 2006).

In this study, the fear is defined as a distressing emotion, and as a feeling of agitation and anxiety caused by the presence or imminence of danger, evil, pain, etc., whether the threat is real or imagined. The fear is also defined as that which causes a feeling of being afraid; that of which a child is afraid. The fears are seen as a natural part of every child's normal development. (Cullone 2000, Wolman 1979, Medical-dictionary.) The hospital-related fear of a child does not mean the same as phobia, which is defined as a persistent, irrational, intense fear of a specific object, activity, or situation, that the child cannot control (Huttunen 2005).

Lazarus and Folkman (1984) defined coping as: constantly changing cognitive and behavioral efforts to manage specific external or internal demands. Two general coping strategies have been distinguished: problem-solving strategies are efforts to do something active to alleviate stressful circumstances, whereas emotion-focused coping strategies involve efforts to regulate the emotional consequences of stressful or potentially stressful events (Lazarus & Folkman 1984). In this study, the coping strategy for fear is defined as the child's active attempts at cognitive, emotional and functional actions to master her/his hospital-related fears. Coping strategies refer to the specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce, or minimize stressful events (Lazarus & Folkman 1984).

In this study, the literature search was performed with an information specialist on CHINAL, Medline, PsychInfo and Medic databases, using different combinations of words: hospital*, inpatient*, or infirmar*; child*, children (also from the age of 2 to 5 and 6 to 12) or toddler; fear, phobi*, angst*, fright*, horror*, scare*, dread*, or distress*; experience* or insight*; coping*, cope*, or adapt*. Because of the limited number of suitable articles found (fears 361, coping strategies 109 articles), the search was extended from 1970 to 2009. There were several studies where the focus was on the hospital experiences of preschoolers, the needs of young children in hospital, or on the quality of care, but only few studies in which children had a possibility to express their fears or coping strategies related to hospitalisation. Part of the earlier information was also relatively old, from 1970 to 1990, and collected in a culture which differed from the Finnish culture in general, and from the nursing culture in Finland.

2. Review of the literature

2.1. The social, emotional and cognitive development of 4-6-year-old children

The years from 4 to 6 are a time of intensive growth and development for children, and are characterized by intense activity and discovery. It is a time of marked physical and personality development (Wong & Hockenberry-Eaton 2001).

The developmental changes during the preschool years are more subtle than those during infancy, but should be considered just as important. Preschoolers refine abilities, acquire new skills, become bigger and stronger, increase communication skills, and grow socially and emotionally. Children at this age acquire wider social relationships, learn role standards, gain self-controll and mastery, become more independent, and begin to develop then self-concept. Development of speech and the ability to communicate are especially important during this period. (Boeden & Smith Greenberg 2010, Santroc 2007, Aaltonen et al. 2003, Wong & Hockenberry-Eaton 2001.) (Table 1.)

Each child grows and develops in his or her own unique way. Great individual variation exists in the age at which developmental milestones are reached. The sequence in predictable, the exact timing is not. Differences in social and emotional development result from a child's inborn temperament, cultural influences, disabilities, behaviors modeled by adults, the relationship between the child and the parents, the level of security felt in the child's relationships with adults, and the opportunities provided for social interaction. (Boeden & Smith Greenberg 2010, Santroc 2007, Aaltonen et al. 2003, Wong & Hockenberry-Eaton 2001.)

Table 1. The social, emotional and cognitive development of 4-6-year- old children (Boeden & Smith Greenberg 2010, Santroc 2007, Aaltonen et al. 2003, Wong & Hockenberry-Eaton 2001)

The development of the child	The age of the child 4 years	5 years	6 years
Social and emotional development	• Cooperates with others and participates in group activities • Outgoing, friendly; overly enthusiastic at times, often appears selfish • Insists on trying to do things independently; often frustrates • Boasts, exaggerates • Has learned to better manage intense emotions with coping strategies like talking about them • Has many fears • Sexual exploration demonstrated through play	• Play is associative; tries to follow rules • Enjoys and often has one or two focus friendships • Needs comfort and reassurance from adults but is less open to comfort • Shows affection and caring towards others • Cares for self, occasionally needing supervision • Boasts about accomplishments • Generally subservient to parents • Has better self-control over emotions • Has fewer fears	• Anxious to please; needs and seeks adult approval • Starts to display an increasing awareness of their own and other's emotions • Relationship with parents is less dependent on but still needs nurturing • Begins to develop better techniques for self-control • Draws security from predictable routines and their interactions with adults with whom they feel secure • May be increasingly fearful of the unknown
Cognitive development	• Counts up to 20, understands the concept of numbers up to three • Vocabulary is large, e.g. knowing parts of his body • Talks about things in the past and future. • Understands the sequence of daily events • Has increased memory skills • Can give reasons and solve problems. • Often confuses fact with fiction	• Understands concepts of same size; identifies objects with specified serial position: first, second, last. • Talks about the past, present and future, with a good sense of time • Asks innumerable questions: Why, what, where, when? • Eager to learn new things • Speech is almost entirely intelligible • Vocabulary of 1500 words	• Understands time • Able to carry on adult-like conversation, asks many questions • Enthusiastic and inquisitive about surroundings • Begins to develop concepts of quantity, distance, weight, length • Is able to distinguish the difference between reality and fantasy • Vocabulary 10 000 - 14 000 words

2.2. Hospital-related fears of 4-6-year-old children

The following paragraphs first explain the necessity of being aware of the hospital-related fears of 4-6-year old children, then disclose the hospital-related fears of young children, expressed by themselves, and after that, fears reported by adults. How young children express their fears, according to earlier studies, is also described.

It is especially important to identify the possible fears of a child when caring for pre-school-aged children. According to several studies, pre-school-aged children have more hospital-related fears than older children because of their developmental stage (Gazall & Mackie 2007, Fukuchi et al. 2005, Romino et al. 2005, Majstrovic & Veerkamp 2005, 2004, Gozal et al. 2004, Rennick et al. 2002, Beva et al. 1990). The pre-school-aged child is not always able to separate reality from the imaginary, and the child's ability to express and cope with his or her fears is limited (Brever et al. 2006, Majstrovic & Veerkamp 2004). Sometimes it is also difficult for a young child to distinguish between pain and fear (Wennström & Bergh 2008, Yonug 2005).

Being admitted to hospital causes fear and anxiety in 4-6-year-old children (Sieben-Hein & Steinmiller 2005, Gozal et al. 2004, McConnochie et al.1997, Kain et al. 1996). Only few earlier studies were found to describe the hospital-related fears reported by 4-6-year-old children, and there is a lack of information on the subjective experience of hospital-related fears of a pre-school-aged child. Earlier studies have reported that repeated admissions to hospital increase the anxiety in children (Karling et al. 2007, Brewer et al. 2006, Proczkowska-Björklund 2004). However, there is no information on whether the hospital fears of healthy pre-schoolers differ from the fears of children of the same age who are being treated in hospital.

Children have reported that when in hospital they were most afraid of the unfamiliar environment, the feeling of abandonment, pain, the restriction of their self-determination and free choice (Wennström et al. 2008, Ivanoff et al. 1999), and bodily injuries (Ivanoff et al. 1999).In hospital, children can also be scared by the control of the nurses over them (Wennström et al. 2008, Ivanoff et al. 1999) and not knowing what will happen in the future (Wennström et al. 2008, Flinkman & Salanterä 2004, Ivanoff et al. 1999). (Table 2.)

In a study concerning children attending day surgery, the children reported being afraid of nursing procedures, injections and suturing but also of taking medicines and of unknown equipments, as the anesthesia mask. (Flinkman & Salanterä 2004). Separation from parents (Wilson et al. 2009, Flinkman & Salanterä 2004), unrealistic fears as well as nausea, vomiting, and the need to undergo another operation, also seemed to cause fear (Flinkman & Salanterä, 2004). Children with diabetes and their parents reported that the children were afraid of difficult symptoms that limit their activity and everyday life (Nordfeld & Ludvigson 2005). (Table 2.)

Table 2. Self-reported hospital-related fears of 4-6-year-old children

Fears reported by 4-6-year-old children	The study
Unfamiliar people and environment	Wennström et al. 2008, Ivanoff et al. 1999
Feeling of abandonment	Wennström et al. 2008, Ivanoff et al. 1999
Pain	Wennström et al. 2008, Flinkman & Salanterä 2004, Ivanoff et al. 1999
Bodily injuries	Ivanoff et al. 1999
Losing control	Wennström et al. 2008, Flinkman & Salanterä 2004, Ivanoff et al. 1999
The control of the nurses over them	Wennström et al. 2008, Ivanoff et al. 1999
Lack of information about the future	Wennström et al. 2008, Flinkman & Salanterä 2004
Injections and suturing	Flinkman & Salanterä 2004
Taking medicines	Flinkman & Salanterä 2004
Unknown equipment and environment	Wennström et al. 2008, Flinkman & Salanterä 2004
Separation from parents	Wilson et al. 2009, Flinkman & Salanterä 2004
Unrealistic fears	Flinkman & Salanterä 2004, Ivanoff et al. 1999
Operation	Wennström 2008, Flinkman & Salanterä 2004
Symptoms of the disease	Nordfeld & Ludvigson 2005, Flinkman & Salanterä 2004
Nursing procedures	Flinkman & Salanterä 2004, Ivanoff et al. 1999

According to adult informants, about 19-68 % of young children were afraid of injections and needles (Kettwich et al. 2007, Majstrovic & Veerkamp 2004, Snyder 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996). (Table 3.)

Table 3. Hospital-related fears of 4-6-year-old children reported by parents and the hospital personnel

Fears reported by parents and the hospital personnel	The study
Injections and needles	Kettwich et al. 2007, Majstrovic & Veerkamp 2004, Snyder 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Pain	Schmidt et al. 2007, Brever et al. 2006, Gozal et.al. 2004, Snyder 2004, Koenig et al. 2003, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Symptoms of the disease	Koenig et al. 2003, McCann & Kain 2001
Nursing procedures, tests and examinations	Wollin et al. 2004, Snyder 2004, Gozal et.al. 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Operation	Wollin 2009, Brever et al. 2006, Snyder 2004, Alsop-Shields 2001, Gozal et.al. 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Feeling of abandonment	Brever et al. 2006, Snyder 2004, Alsop-Shields 2001
Bodily injuries	Snyder 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Losing control and being held still	Brever et al. 2006, Snyder 2004, Koenig et al. 2003, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Unfamiliarity with the norms of accepted behavior	Snyder 2004, Koenig et al. 2003, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996
Unknown equipment and environment	Przybylo & Stevenson 2005, Snyder 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996, Wolman 1979
Lack of information	LeRoy et al. 2003, Deering & Cody 2002
Taking medicines	Snyder 2004, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996

The parents have reported that pain, difficulties in breathing, blood samples, being held still, nursing procedures, and unfamiliarity with the norms of accepted behaviour cause fear in children (Schmidt et.al. 2007, Brever et al. 2006, Przybylo & Stevenson 2005, Snyder 2004, Wollin et al. 2004, Gozal et.al. 2004, Koenig et al. 2003, LeRoy et al. 2003, Deering & Cody 2002, McCann & Kain 2001, Alsop-Shields 2001, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996.) Children may also be frightened by the protective clothing of nurses (Przybylo & Stevenson 2005). According to parents, 83% of pre-school-aged children suffer from different kinds of anxiety symptoms related to hospital fear even after a minor operation in hospital (Hus 2004, Rossen & McKeever 1996). (Table 3.)

In hospital, a 4-6-year old child can also have the typical fears of that particular developmental stage, such as separation from parents (Romino et al. 2005, Snyder 2004, Koenig et al. 2003, Alsop-Shields 2001, Kain 2001), unfamiliar people (Brever et al. 2006, Romino et al. 2005, Snyder 2004, Alsop-Shields 2001), and the fear of darkness, loud noises, being abandoned (Romino et al. 2005, Przybylo & Stevenson 2005, Deering & Cody 2002, McCann & Kain 2001, Cullone 2000). Children are also afraid of failure, loss of control, being criticized or rejected, and also of punishments for real or imagined misbehaviour (Romino et al. 2005, Snyder 2004, Alsop-Shields 2001). Because of the rich imagination of pre-school-aged children, imaginary fears and fears caused by the lack of knowledge are emphasized during this stage (Romino et al. 2005, Deering & Cody 2002). (Table 4.)

Table 4. Typical fears of the developmental stage of a 4-6-year- old child, reported by parents and the hospital personnel

Typical fears of the developmental stage of a 4-6-year- old child	The study
Separation from parents	Romino et al. 2005, Snyder 2004, Koenig et al. 2003, Alsop-Shields 2001, Kain 2001
Unfamiliar people and environment	Brever et al. 2006, Romino et al. 2005, Snyder 2004, Alsop-Shields 2001
The fear of darkness, loud noises	Romino et al. 2005, Przybylo & Stevenson 2005, Deering & Cody 2002, McCann & Kain 2001, Cullone 2000
Unrealistic or imaginary fears	Romino et al. 2005, Deering & Cody 2002
Failure, being criticized or rejected, punishments	Romino et al. 2005, Snyder 2004, Alsop-Shields 2001

Pre-school-aged children express their fears through their behaviour as general anxiety, tearfulness, and fierce emotional outbursts, or as increased resistance and escape attempts. The child can also behave aggressively or have tantrums. Nightmares, waking up at night, clinging to parents, eating problems, and bedwetting can all be signs of a small child's fear. Fearfulness is also expressed in the child's facial expressions and gestures. (Wennström & Bergh 2008, Koenig et al. 2003, Gritti et al. 2001, McCann & Kain 2001, Kain et al. 1996, Rossen 1996.) Children may appear pale and hold their breath, they may sweat and shake or fidget around nervously (Wong & Hockenberry-Eaton 2001, Sorenson & Roth 1973). (Table 5.)

Table 5. How 4-6-year-old children express their hospital-related fears

The expression of fear	The study
General anxiety Cry Verbal expression Fierce emotional outbursts Resistance Escape attempt Aggressiveness Sleeping problems Eating problems Clinging to parents Bedwetting	Wennström & Bergh 2008, Koenig et al. 2003, Gritti et al. 2001, McCann & Kain 2001, Kain et al. 1996, Rossen 1996
Submission	Koenig et al. 2003
Fearfulness is expressed in the child's facial expressions, gestures, and in physiological changes in the child's body	Wennström & Bergh 2008, Koenig et al. 2003, Gritti et al. 2001, McCann & Kain 2001, Wong & Hockenberry-Eaton 2001, Sorenson & Roth 1973
Children focus their attention on the object of fear, cease playing and fall silent.	Sorenson & Roth 1973
Children express their fears through their games and drawings	Wikström 2005

Fearful pre-school-aged children often focus their attention on the object of fear. Children cease playing and fall silent. Fear is expressed in the questions children ask and the contents of discussion (Sorenson & Roth 1973). Children also express their hospital experiences and fears through their games and drawings (Wikström 2005). If children repeatedly get into frightening situations, they can become submissive and no longer rely on the adult. Submissive children may not easily accept the adults comforting (Koenig et al. 2003). (Table 5.)

According to adult informants, young children with earlier hospital experiences are more fearful than other children. Moreover, experiences of previous, painful procedures increase the number of fears in children. (Brewer et al. 2006, Sieben-Hein & Steinmiller 2005.) Fears and anxiety concerning nursing procedures have more often been described in girls than in boys. Fears have also been described more often in shy and reclusive children than in others (Armfield et al. 2006, Majstrovic & Veerkamp 2005, Nakai et al. 2005, Muris et al. 2004).

2.3. Coping strategies for hospital-related fears in 4-6-year-old children

This paragraph describes situations in which young children's coping with fears in hospital have been reported in earlier studies, followed by the child's coping strategies to master his or her hospital-related fears.

In earlier studies, children's coping with hospital-related fears have been reported during hospitalisation in general (Foley 2000), during painful procedures (Pinto & Barbosa 2007), during day-surgery procedures (Vagnoli et al. 2005), and surgical contests (Dreger & Tremback 2006, Justus et al. 2006, LaMontagne 1997), and anaesthesia (Lindberg & von Post 2005, 2006).

Situations in which young children need coping strategies in hospital are connected with the fears of pain, injections, medicines, symptoms of the disease, and lack of information (Kettwich et al. 2007, Nordfeld & Ludvigson 2005, Przybylo & Stevenson 2005, Majstrovic & Veerkamp 2004, Flinkman & Salanterä 2004). Separation from parents, nursing procedures, unfamiliar people, and being held activate their coping strategies (Koenig et al. 2003, Cullone 2000). In hospital, children also have to cope with the restriction of their self-determination and free choice (Ivanoff et al. 1999), as well as with the typical fears of the particular developmental stage, such as the fear of darkness, and loud noises (Brever et al. 2006, Romino et al. 2005, Snyder 2004).

There are no previous research data on child-reported coping strategies, or on the experience of coping with hospital-related fears. According to information received from the parents and the hospital personnel, children use their cognitive-, emotion- and function-oriented coping strategies to master their hospital-related fears. Most coping strategies, such as seeking social support, serve both emotion- and cognitive-oriented functions simultaneously (Norman & Parker 1990, Lazarus & Folkman 1984).

Cognitive-oriented coping strategies. Cognitive coping strategies, like getting information and discussing the hospital experience with the nurse helped the children to cope with their fears of operation (Dreger & Tremback 2006, Justus et al. 2006, Dowling 2002, Kirmanen 2000, Caty et al. 1997, Ziegler & Prior 1994). To be able to participate in decisions helped children to manage their fear of general anaesthesia (Lindberg & von Post 2005, 2006).

A behavioural modelling and reinforcement procedure for "bravery training", including parent training, helped children to cope with their fears in hospital (Hawkins 1991). A cognitive-behavioural treatment package reduced children's distress and increased coping. The model included coping skills training, such as breathing exercises, positive feedback, and distraction, in which the child's attention was turned to an activity. Distraction has also earlier proved to be a helpful strategy (Zelikovsky et al. 2000). (Table 6.)

Table 6. Cognitive-oriented coping strategies for hospital-related fears in 4-6-year-old children

Cognitive-oriented coping strategies	The study
Getting information	Dreger & Tremback 2006, Justus et al. 2006, Dowling 2002, Kirmanen 2000, Caty et al. 1997, Ziegler & Prior 1994
Participating in decisions	Lindberg & von Post 2005, 2006
Cognitive-behavioral treatment	Hawkins 1991
Distraction	Zelikovsky et al. 2000

Emotion-oriented coping strategies. These coping strategies involve efforts to regulate the emotional consequences of stressful or potentially stressful events (Lazarus & Folkman 1984). The presence of supportive, guiding parents during the child's hospitalization (Le Roy et al. 2003, Rennic et al. 2002, Foley 2000, Robinson et al. 1996), and especially during painful procedures (Pinto & Barbosa 2007), examinations or tests (Jan 2007), and during the day surgery process (Vagnoli et al. 2005) helped the child to cope with separation anxiety. Sibling relationships also helped to alleviate the fear caused by separation (Foley 2000). Children resorted to the nursing staff in the absence of parents. The emphatic-supportive attitude of the nursing staff towards the children alleviated their fear, and helped them to cope especially with painful procedures (Anderzen-Carlsson et al. 2007, Jan 2007, Favara-Sacco et al. 2001, Ivanoff et al.1996). To be given time, to be taken seriously, and to be able to help inspired confidence in children, which in turns helped them to manage their fear of general anaesthesia (Lindberg & von Post 2006, 2005). During the day surgery process, the children used their emotion-oriented coping strategies when they tried to gain control, regain normality in life, and co-operate with the nursing staff (Wensström et al. 2008). (Table 7.)

Table 7. Emotion-oriented coping strategies for hospital-related fears in 4-6-year-old children

Emotion-oriented coping strategies	The study
The presence of parents	Jan 2007, Pinto & Barbosa 2007, Vagnoli et al. 2005, Le Roy et al. 2003, Rennic et al. 2002, Foley 2000, Robinson et al. 1996
The presence of sibling	Foley 2000
The presence of the nursing staff	Anderzen-Carlsson et al. 2007, Jan 2007, Favara-Scacco et al. 2001, Ivanoff et al.1996
To be given time, to be able to help	Lindberg & von Post 2005, 2006
Gaining control and regaining normality in life	Wennström et al. 2008
Co-operating with the nursing staff	Wennström et al. 2008

Function-oriented coping strategies. The child's playing, escaping, or resisting can be seen as function-oriented attempts to master the fear (Dowling 2002, Kirmanen 2000, Caty et al. 1997). Therapeutic play, for example, the use of puppet shows, or playing doctors and nurses (Shipton 1999) has been shown to decrease anxiety in hospitalized pre-schoolers (Haiat et al. 2003, Bowmer 2002, Zigler & Prior 1994, Loranger 1992), and help them to express themselves (Wikström 2005). Using magic tricks (Peretz & Gluck 2005), self-selected distracters, such as bubbles, virtual reality glasses or handheld video games (Windich-Biermeier et al. 2007) and the presence of clowns have helped children to master their fears (Vagnoli et al. 2005). Play can also have an important role when examining poorly cooperative children (Jan 2007). Using walkie talkies have alleviated the fear of separation in children having surgery (Mossman 2004). (Table 8.)

During the day-surgery process, the children have used function-oriented coping strategies by escaping from the situation, by searching for activity and comfort, and also for contact with health professionals. Children have cried and expressed their discomfort verbally. They also have resisted nursing procedures (Favara-Scacco et al. 2001), and expressed physiological needs of drinking, eating and urinating (Wennström & Bergh 2008). (Table 8.)

Music and art therapy may serve both emotion-, function-, and problem–oriented functions of coping simultaneously. Music therapy has alleviated the anxiety, fear and stress of children in hospital (Standley & Hanser 1995) and has had a beneficial effect in reducing distress before, during, and after blood tests (Caprill et al. 2007). Music-

therapy-assisted procedures have resulted in successful elimination of patient sedation, reduction in procedural times/durations, and a decrease in the number of staff members present for procedures (DeLoach 2005). Art therapy was shown to be a useful intervention that could help the children to cope with intrusive interventions in hospital (Gagnon et al. 2004, Favara-Scacco et al. 2001), as well as animal assistant therapy (Gagnon et al. 2004). (Table 8.)

Table 8. Function-oriented coping strategies for hospital-related fears in 4-6-year-old children

Function-oriented coping strategies	The study
Playing	Jan 2007, Windich-Biermeier et al. 2007, Wikström 2005, Peretz & Gluck 2005, Vagnoli et al. 2005, Mossman 2004, Haiat et al. 2003, Bowmer 2002, Dowling 2002, Kirmanen 2000, Shipton 1999, Caty et al. 1997, Zigler & Prior 1994, Loranger 1992
Escaping	Wennström & Bergh 2008
Resisting	Favara-Scacco et al. 2001
Searching for activity and comfort, searching for contact with health professionals, crying, expressing the fear verbally, needs of drinking, eating and urinating	Wennström & Bergh 2008
Music therapy	Caprill et al. 2007, DeLoach 2005, Standley & Hanser 1995
Art therapy	Favara-Scacco et al. 2001, Gagnon et al. 2004
Animal assistant therapy	Gagnon et al. 2004

2.4. Summary of the literature review

The aim of this study was to go deeply into the experience of fear and coping among sick and also healthy children. There is very little information available on the magnitude and content of hospital-related fears and coping with the fear, as reported by 4-6-year-old children themselves, and a lack of information on the subjective experiences of hospital-related fears and coping with the fear of a pre-school-aged child. Thus, it is especially important to identify the possible fears and coping strategies with the fear of children when caring for pre-school-aged children.

According to several studies, pre-school-aged children have more hospital-related fears than older children because of their developmental stage (Gazal & Mackie 2007, Romino et al. 2005, Gozal et al. 2004, Majstrovic & Veerkamp 2005, 2004, Rennick, et al. 1990).

In earlier studies, the children have reported that while in hospital they were most afraid of the unfamiliar environment, the feeling of abandonment, pain, bodily injuries, and the restriction of their self-determination and free choice (Ivanoff et al. 1999). The children have also reported that injections and needles, operation, symptoms of the disease, taking medicines, and lack of information caused fear (Przybylo & Stevenson 2005, Nordfeld & Ludvigson 2005, Flinkman & Salanterä 2004).

The parents and the hospital personnel have reported that separation from parents, unfamiliar people, being held still, nursing procedures, and unfamiliarity with the norms of accepted behaviour cause fear in children (Snyder 2004, Gozal et.al. 2004, Koenig et al. 2003, LeRoy et al. 2003, Cullone 2000, Nicastro & Whetsell 1999, Jost 1996). In hospital, a 4-6-year-old child can also have other fears typical of that particular developmental stage, such as the fear of darkness, loud noises, and imaginary fears (Brever et al. 2006, Romino et al. 2005, Snyder 2004, Alsop-Shields 2001). Fear can be reflected in the child's behaviour, facial expressions, and gestures, as well as in physiological changes in the child's body (Wennström & Bergh 2008, Koenig et al. 2003, Gritti et al. 2001, Kain et al. 1996, Rossen 1996).

According to information obtained from the parents and the hospital personnel, the presence of parents and the support of the personnel are essential coping strategies for hospitalized children (Jan 2007, Rennic et al. 2002, Favara-Scacco et al. 2001, Foley 2000). Crying, escaping, expressing their discomfort verbally, as well as physiological needs of drinking, eating and urinating have been shown to decrease anxiety in hospitalized pre-schoolers (Wennström & Bergh 2008, Lindberg & von Post 2005, 2006.) Also possibilities to participate in decisions and to discuss the hospital experience helped children to manage their hospital-related fear (Dreger & Tremback 2006, Justus et al. 2006, Lindberg & von Post 2006, 2005). Moreover, methods such as behavioural modelling and reinforcement procedures for "bravery training", including parent training (Zelikovsky 2000, Hawkins 1991), music and art therapy (DeLoach 2005, Caprilli et al. 2005, Gagnon 2004, Favara-Scacco et al. 2001), and therapeutic play (Windich-Biermeier 2008, Dreger & Tremback 2006, Bowmer 2002, Shipton 1999, Loranger 1992) have been found to alleviate children's hospital-related fears.

3. Aims of the study

In this study, the voice of children was heard when they talked about their experiences of fear and coping related to hospitals or other health care services. The purpose was to find out and describe what were the hospital-related fears and the coping strategies with hospital-related fears of the 4-6-year-old children as described by themselves, and what is the experiences of fear and coping to children.

The purposes of this study were:
1) To describe the 4-6-year-old children's self-reported hospital-related fears, and their experience of hospital-related fears.
2) To describe the self-reported coping strategies for hospital-related fears in 4-6-year-old children, and their experience of coping with the fears.
The aim of this study was to form a descriptive model of the subjective experience of hospital-related fears and coping strategies of 4-6-year old children.

The research questions were:

1. What are the hospital-related fears of 4-6-year-old children as described by themselves?
2. What is the experience of hospital-related fears to 4-6-year-old children?
3. What are the coping strategies with hospital-related fears of the 4-6-year-old children as described by themselves?
4. What is the experience of coping with hospital-related fears to 4-6-year-old children?
5. What is the descriptive model of hospital-related fears and coping strategies of 4-6-year old children?

A qualitative, descriptive study was conducted in 2004-2006 (Figure 1). The population of the study comprises 4-6-year-old children living in the metropolitan area of Finland, with population of about 1.5 million. The criteria for participation in the study were: age 4 to 6 years, the child's ability to communicate in Finnish, and the child's normal developmental stage (evaluated by kindergarten and hospital personnel). A purposive sampling method was used.

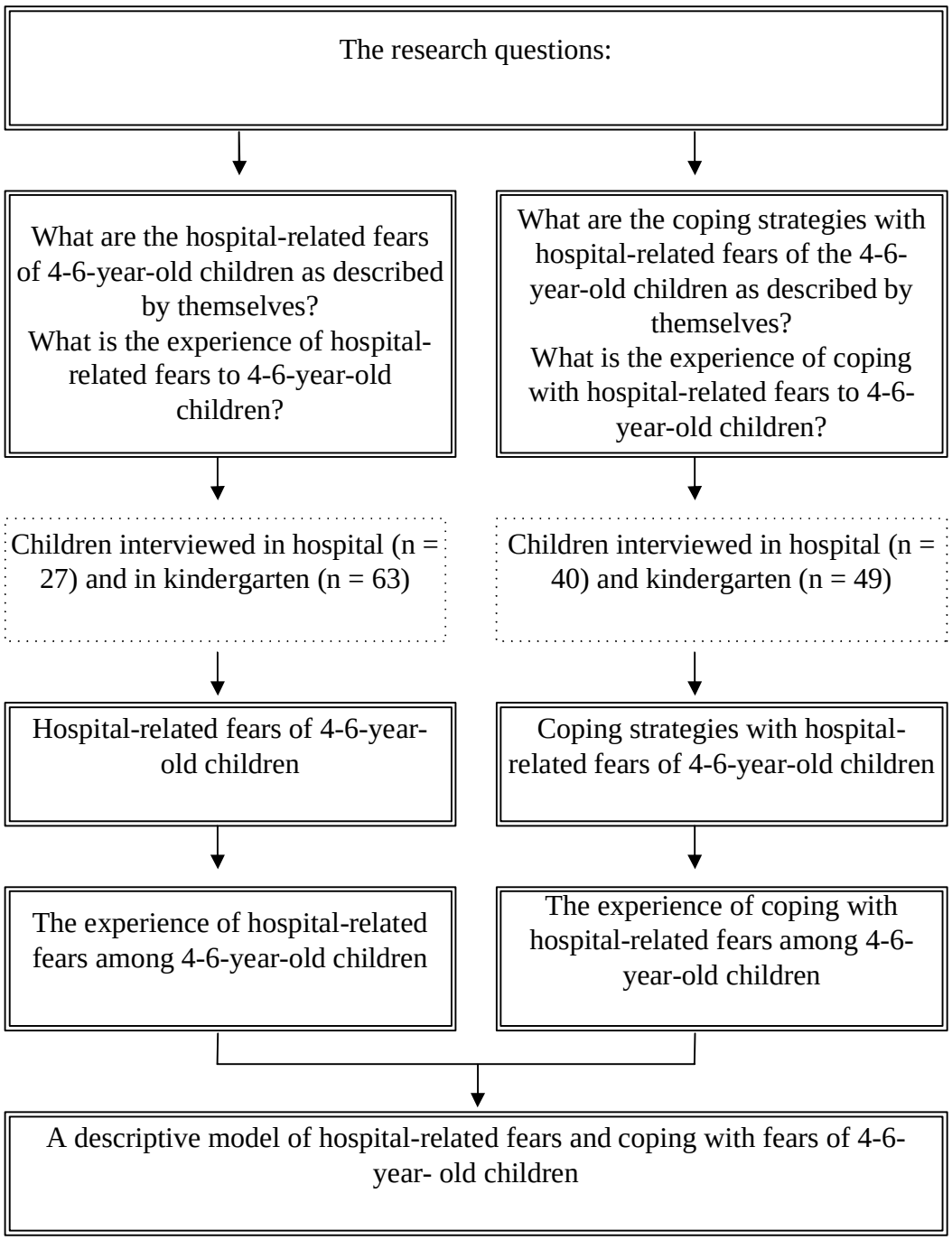

Figure 1. The study design

4. Methods

4.1. Data collection

4.1.1. Samples of the study

The data were collected by interviewing 4-6-year-old children who lived in the metropolitan area of Finland (population about 1.5 million); 90 children were interviewed with the aim of describing the hospital-related fears of pre-school-aged children, and 89 with the aim of describing the coping strategies of children. The children were interviewed in a kindergarten or in two paediatric surgical and two neurological wards in one university hospital during the period of the study from 2004 to 2006. The children were chosen through purposive sampling, in which the sample contains those persons who are willing to take part, and fit the criteria of the study (Higginbottom 2004, Burns & Grove 2003, Maes et al. 1996). A purposive sample consists of information-rich cases that manifest the phenomenon of interest (Burns & Grove 2003, Patton 1990). According to the phenomenological research tradition, any person fulfilling the inclusion criteria is a good informant and thus purposive sampling was used (Crotty 2002, Spradley 1979).

The interviews were arranged with the head nurses of the wards in the university hospital and with the heads of the kindergartens. The personnel of the wards and kindergartens were informed about the study by the interviewers and by the researcher, and after this, the personnel gave the parents a data sheet describing the study with a written request for permission to interview their child. All those children were interviewed whose parents gave written permission - and the child verbal permission - to participate in the study, and who were on the ward or in the kindergarten during the period of the study.

The interviews were tape-recorded and transcribed. The length of the transcribed interviews ranged from 1 to 13 pages, and the interviews lasted from 15 minutes to one hour.

4.1.2. Semi-structured interview

The data were gathered by semi-structured interviews which were supported by pictures. A semi-structured interview is flexible, allowing new questions to be brought up during the interview as a result of what the interviewee says, and to raise important issues. The topics and issues to be covered were specified in advance as the themes of the interview, but the interviewer decided the sequence and wording of the questions in the course of the interview (Hale et al. 2007, Patton 1990, Hirsjärvi & Hurme 1988). All the interviews were based on standardized themes, and were supported by the interview guide which ensured that the same basic lines of inquiry were pursued with each child (Patton 1990).

The purpose of the interviews was to gain a deeper understanding of young children's hospital-related fears and coping strategies with hospital-related fears. The children

were asked to verbally describe their experiences and images about the phenomenon. The interviews were performed in such a way that a deep, mutual understanding was achieved. The goal was to obtain an authentic insight into the participant's experiences (Polit et al. 2004, Kortesluoma et.al. 2003, Morse & Richards 2002, Patton 2002, Scott 2001, Burns & Grove 2001, 2003, Bricher 1999).

The research themes were formulated on the basis of earlier studies of hospital-related fears and coping (Maes 1996, Norman & Parker 1990, Lazarus & Folkman 1984). In the interviews concerning hospital-related fears the interviewer discussed the research themes with the children, which were formed from the typology of domains for nursing by Kim: client/patient, patient-nurse, practice, and environment (Walker 2007, Polit et al. 2004, Burns & Grove 2001, Morse 2000, Kim 2000, Kim & Kollak 1999).

The interview themes of hospital-related fears were:

1. Fears caused by being a patient
2. Fears caused by the physical, social and symbolic environment of the hospital
3. Fears caused by the patient-nurse relationship
4. Fears resulting from nursing interventions

The interviewer began by asking the children whether they thought there was anything frightening in the hospital, and continued according to the themes of the interview (Polit et al. 2004, Morse & Richards 2002, Burns & Grove 2001).

The questions the children were asked:

1. Is there anything frightening in hospital?
2. Is there anything frightening related to being a patient?
3. Is there anything frightening related to the nursing environment?
4. Is there anything frightening related to the interaction between the personnel and the children?
5. Is there anything frightening related to the nursing practice?

The research themes of coping strategies were formulated on the basis of earlier studies of coping (Norman & Parker 1990, Lazarus & Folkman 1984). The themes were:

1. The cognitive-oriented coping strategies with hospital-related fears in pre-school-aged children
2. The emotion-oriented coping strategies with hospital-related fears in pre-school-aged children
3. The function-oriented coping strategies with hospital-related fears in pre-school-aged children.

At the beginning of the interview, the children were asked whether they thought there was anything frightening in hospital, and continued with what could help the children: could it help to think or do something and would anything else help them (Bricher 1999, Hallett 1995)?

The questions the children were asked:

1. Is there anything frightening in hospital?

2. What would help if you get scared in hospital?
3. What could you do if you get scared?
4. What could you think about if you get scared?
5. Could some person help if you get scared?
6. Could something else help if you get scared?

During the interview, the children were also observed by the interviewer and the findings were written in the research diary. The children's answers were sometimes so short that without the diary, reliable analysis would have been impossible. However, the interviewer did not interpret the child's behaviour or answers, but simply wrote down the objective observation, for example, if the child shook or nodded his or her head.

In a qualitative study, using semi-structured interviews, the nature of the researcher-participant relationship has an impact on the collection and interpretation of the data. The children participating in this study were not treated as research objects in the usual sense of the word; they were participants. In order to observe the phenomenon, that is, the experience of hospital-related fears and coping with the fear, the interviewer enters into a relationship of dialogical openness, ready to allow the participants to speak and ready to listen. The prerequisite for a successful interview was the relaxed, confidential and friendly atmosphere in which children had the courage to express their thoughts, with sufficient time (Kleiman 2004, Deering & Cody 2002, Burns & Grove 2001, Faux et al. 1988). To varying degrees, the interviewer influenced the children being studied and, in turn, was influenced by them. This involvement, considered a source of bias in quantitative research, is thought by qualitative researchers to be a natural and necessary element of the research process. To conduct the data collection the interviewers involved their personality and used their intuition. (Burns & Grove 2003.)

The topics of the pictures consisted of a fairy tale figure in a hospital environment. The picture subjects were: a sick child in bed in hospital with instruments and parents nearby, a child in an operating room, a child in bed surrounded by doctors and nurses, and a child sitting in a wheelchair in a corridor in the ward (Bourgeois & Clark 2000). The pictures helped the children to become interested in and concentrate on the conversation, connect their own experiences to the topic, and express their thoughts (Carney et al. 2003, Doverborg & Pramlin 2000). The younger the child was, the more his or her discussion on certain themes was facilitated by having some concrete material such as pictures to look at and to hold (Doverborg & Pramlin 2000).

Altogether 39 trained interviewers performed the interviews. The interviewers were graduating nursing students, who were trained in the ethics and special characteristics of interviewing children, and in the need for confidentiality throughout the data collection, by lectures (Appendix 1) and individual instruction (M.S.), and by requiring pilot interviews.

4.2. Data analysis

In order to find answers to the research questions the data were analysed by deductive and inductive content analysis, quantitative analysis, and using the structure of Colaizzi's Method of Phenomenological Analysis (Table 9).

Table 9. The process of data collection and analysis

Year	N	The research questions	Analysis	The questions the children were asked
2004	90	What are the hospital-related fears of 4-6-year-old children as described by themselves?	Deductive content analysis and quantitative analysis	Is there anything frightening in hospital? Is there anything frightening related to being a patient? Is there anything frightening related to the nursing environment?
2008, 2009		What is the experience of hospital-related fears for 4-6-year-old children?	Colaizzi's Method of Pheno-menological Analysis	Is there anything frightening related to the interaction between the personnel and the children? Is there anything frightening related to the nursing practice?
2006	89	What are the coping strategies with hospital-related fears of the 4-6-year-old children as described by themselves?	Inductive content analysis and quantitative analysis	What would help if you get scared in hospital? What could you do if you get scared? What could you think about if you get scared?
2007		What is the experience of coping with hospital-related fears for 4-6-year-old children?	Colaizzi's Method of Pheno-menological Analysis	Could some person help if you get scared? Could something else help if you get scared?

4.2.1. Content analysis

The purpose of content analysis of the data was to find out and describe what were the hospital-related fears and the coping strategies with hospital-related fears of the 4-6-year-old children as described by themselves? The purpose was also to describe the numbers of hospital-related fears and coping strategies, and the possible differences in the fears and coping strategies between children interviewed at kindergarten and in hospital.

Content analysis may be used in an inductive or deductive way. A deductive content analysis is used when the structure of the analysis is based on an earlier theory or model (Tuomi & Sarajärvi 2009, Elo & Kyngäs 2007, Hsie & Shannon 2005, Burns & Grove 2005, Graneheim & Lundman 2004, Janhonen & Nikkonen 2003, Latvala & Vanhanen-Nuutinen 2003, Steimler 2001, Catanzaro 1998, Sandelowski 1995, Krippendorff 1985). The data on hospital-related fears were analyzed by deductive content analysis according to the domains of nursing. This method made it possible to find answers to the research question and to discover how fears were related to nursing domains.

In inductive content analysis, the categories are driven from the data. The data on coping strategies were analyzed by inductive content analysis because there are not enough former research data on the phenomenon.

Both inductive and deductive content analyses were started by selecting a specific unit of analysis (Polit & Beck 2004, Steimler 2001, Sandelowski 1995). In this study, the unit of analysis was a word or a sentence; also the manifest content was analysed and the answers of the children were not interpreted (Polit & Beck 2004, Elo & Kyngäs 2007).

In the initial phases of content analysis, the researcher first needed to become familiar with the data. This involved reading and rereading the notes and transcripts, and listening to the audiotapes until the researcher became immersed in the data (Steimler 2001, Morse & Field 1995).

Deductive content analysis

After selecting a specific unit of analysis, the next step of content analysis using deductive analysis was to develop a categorization matrix and to code the data according to the categories. All the data were reviewed for content and coded for correspondence to or exemplification of the identified categories. (Hsieh & Shannon 2005, Polit & Beck 2004.)

The data on child-reported hospital-related fears were analyzed by deductive content analysis and categorized into predetermined categories. The categorization matrix was formed from the typology of domains for nursing by Kim (2000, Kim & Kollak 1999), in order to clarify and obtain the general view of the concept of "hospital-related": client/patient, patient-nurse, practice, and environment (Walker 2007, Polit et al. 2004, Morse 2000, Kim 2000). After that, an inductive content analysis was used to classify the data among every main category into sub-categories. (Table 10.)

Table 10. Example of the deductive analysis

Identified significant statements	Subcategories	Predetermined category
Well it's scary, the vaccination.	Shots	Nursing interventions
When they like, take my blood... that's the scariest bit.	Sample-taking and tests	
It was bad when the man dug the pimples out with the needle.	Other nursing interventions	
I get scared when they took me there... to the operation.	Operation	
Guess what was scary… when they made me take the bum medicine… it.	Medication	

Inductive content analysis

The data on coping strategies with hospital-related fears were analyzed by inductive content analysis. Inductive content analysis involved identifying, open-coding, categorizing, and classifying the primary patterns in the data. The purpose of coding was to facilitate the retrieval of data segments by coding categories. Coding simplified and reduced the data. (Hsieh & Shannon 2005, Polit & Beck 2004, Burns & Grove 2003, Steimler 2001, Miles & Huberman 1994.) In practice, open-coding meant that notes and headings were written down in the margins of the transcripts to describe all aspects of the content. The headings were collected from the margins on to coding sheets, and thus subcategories were generated. Each subcategory was named using content-characteristic words, subcategories with similar coping strategies were grouped together as categories, and the categories were classified into 14 main categories. ((Elo & Kyngäs 2008, Polit & Beck 2004, Burns & Grove 2003, Burnard 1996, Miles & Huberman 1994, Patton 1990.) (Table 11.)

Table 11. Example of the inductive analysis

Identified significant statements	Subcategories	The category
I could play games and stuff.	Free play	Play
He could watch the telly, watch some cartoons.	Watching television	
I play with the playstation at the same time.	Computer games	
It helps if mommy reads to me.	Reading, books	
I could go to the play room.	Visiting the play room	

4.2.2. Quantitative analysis

As the purpose of this study was also to describe the numbers of hospital-related fears and coping strategies, and the possible differences in the fears and coping strategies between children interviewed at kindergarten and in hospital, the data were also reviewed by quantitative methods. The data were entered onto a SPSS database and subjected to frequency distributions, Chi-square analysis, and Mann-Whitney U tests. To test the inter-rater reliability of the content analysis, 10% (n=9) of the interviews concerning coping strategies were analysed by two researchers and Cohen´s Kappa values were calculated (Heikkilä 2008, Steimler, 2001, Burns & Grove 2001). The kappa value was 95%.

4.2.3. Colaizzi's method of analyzing qualitative data

After the data were analyzed using content analysis, they were then analyzed using the structure of Colaizzi's Method of Phenomenological Analysis (1978). This is an inductive research approach which focuses on human phenomena, and so is suitable for studying a humanistic discipline, such as nursing. The method is particularly useful for describing an informant´s experiences, beliefs, and memories. It also suits this study well because this is the first time these phenomena have been examined, and therefore, a descriptive methodology is suitable (Paley 2008, Koch 2008, Lehtomaa 2006, Polit & Beck 2004, Sanders 2003, Miles 2000, Annells 1999, Morse 1994).

The aim of phenomenology is to understand a phenomenon from the perspective of a study`s informants, and to produce a description of a phenomenon of everyday

experience, in order to understand its essential structure (Finlay 2009, Polit & Beck 2007, Kleiman 2004, Sanders 2003, Sandala 2002, Priest 2002, Annells 1999). In this study, the purpose of the phenomenological analysis was to describe the experience of hospital-related fears, and the experience of coping with hospital-related fears in 4-6-year-old children. The outcome of the phenomenological analysis was a descriptive model of hospital-related fears and coping with fears of 4-6-year- old children, so Colaizzi´s method was best suited for this purpose.

Table 12. Example of the phenomenological analysis

Significant statement	The meaning	Themes	The cluster
There wasn't anything scary, nothing was scary (in angry tone)... but it's pretty scary, if it hurts (whispering).	At the same time denies and admits the fear of pain	Contradictory expressions describing the fear	Rejection
No they don't scare me… everyone thinks the nurses are scary.	At the same time denies and admits the fear of nurses		
It wasn't at all scary at the doctor's. I cried and shouted: I never want to go there again, I won't go.	Denies being scared although expresses the fear by having cried	Denial of fear	
Yeah, the babies are scared, but the older girls, they aren't.	Transferring her fear to younger children	Transferring the fear	
Franklin´s scared. But I´m not afraid of anything.	Transferring the fear to the fairytale object in the picture		

Colaizzi's Method of Phenomenological Analysis (1978) was consisted of seven stages:

1. Each transcript was read several times, as the audiotapes were replayed to gain a sense of the content.
2. The transcripts were read again more slowly in order to highlight and extract significant statements, that is, to identify the phrases or sentences that directly pertained to the experiences of hospital-related fears and coping with the fear.
3. The meanings of each significant statement were identified and formulated.
4. The formulated meanings were sorted into groups that represent specific themes.

5. The themes were compared to the original descriptions to validate the clusters and to examine discrepancies.
6. The theme clusters were integrated into a description of the phenomenon of hospital-related fear and coping experiences.
7. A descriptive model of the experience was developed. (Kleinman 2004, Polit & Beck 2004, Miller 2003, Sanders 2003, Webb 1999, Colaizzi 1978.) (Table 12.)

This study focuses on 4-6-year-old children's experience of hospital-related fears and coping with hospital-related fears (Figure 2). The children were interviewed both in hospital and in kindergartens in order to understand the experience of fear and coping for children who, at the time of the interview, were admitted to hospital, and for those whose experience of hospital-related fear and coping with the fear was formed from their experiences of visiting a child health clinic, a doctor or a dentist. According to phenomenological research tradition, the informants always find their experience real, regardless of the basis of the experience. Reality is considered subjective; thus, every experience is unique to the individual (Perttula 2006, Sanders 2003, Lukkarinen 2003, Sandala 2002, Crotty 1996, Hallett 1995, Hussler 1962, 1989, 1995).

Interviews: 90 (hospital-related fears study) / 89 (coping with the fear study)

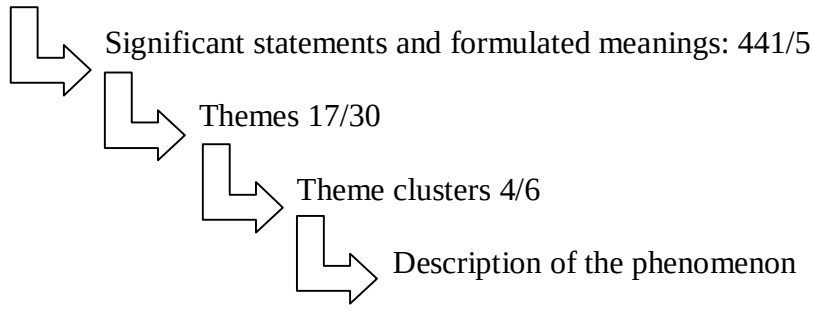

Figure 2. Summary of data analysis using Colaizzi's method

4.3. Ethical considerations

When considering young children as participants in research, issues concerning the appropriateness of children as research subjects, informed consent, the research methods and the potential for physical, emotional or psychological harm are assessed before permission is given for the research to commence (Coyne 2006, Neill 2005, Curtis 2004, Hallström & Elander 2004, Darlington & Scott 2002, Aderson 2001, ETENE 2001a, Miller 2000, United Nations 1989, Coyne 1998).

In this study the ethical aspects of research were taken into account at every phase of the study, from considering the subject to analyzing the data (Miller 2000, Burns & Grove 2001, ETENE 2001b, 2001a, 2002, 2003). The aim of the study was to describe hospital-related fears of 4-6-year-old children and the child's coping with the fear, as reported by the children. The subject of the study is important, and children are seen as the best informants. There are only few studies, in which pre-school-aged children have described their hospital-related fears and coping with the fear, and there is a lack of information about the meaning of fear and coping to the child. The results of this

study can be utilized when developing the care of young children in hospital, and relieving the harmful impact of hospital fears on children in the future.

The hospital's ethics committee (83/E7/2004, 331/E7/2004, 130/E7/2005, 88/E7/2005 HUS 326/E7/2005, HUS 403/E7/2005, HUS 96/E7/2006) and the City Social Services Department both granted their approval for the study. Information about the study; its aim, implementation, interview themes, and the cover letter for the families were included in the requisitions, as was the voluntariness to participate in the study. The requirements also described the participant's rights: the anonymity and confidentiality, as well as the participant's right to withdraw from the study at any time without any influence on the care of the child in hospital or in kindergarten. Once the study had been approved, the researcher discussed the purpose, the content, and the methodology of the study with the charge nurses of the hospital, with the head of the City Social Services, and with the heads of the wards. They also got written information about it. After that, the nurses of the wards and kindergartens gave the parents of all children who met the inclusion criteria written information on the study and a consent form asking for consent for interviews (Appendix 2). The cover letter included information about the aim and implementation of the study, as well as the rights of participants. After this, the parents who had given consent for their child to take part in the study signed an informed consent form and gave it to the nurses (Appendix 3). Then, in cooperation with the nurses, the interviewers arranged how to conduct the interviews on the wards and in the kindergartens. (Etene 2010, HE 67/2009, Tutkimuseettinen neuvottelukunta 2009, 2002, Etene 2001a, 2001b, 2003, Act 785/1992, Act 488/1999, Munhall 1999)

Informed assent from young children should be actively and directly sought using communication methods that maximize their understanding of the research (STM 2008, Miller 2000, Burns & Grove 2001, Munhall 1999, Broome & Richards 1998). In this study, children provided assent by orally stating that they agreed to be interviewed, after receiving written consent from the parent or guardian. The autonomy of the children was respected by giving them oral information on the study, and by informing them of their rights. The participant's identity was protected so that individuals could not be recognized in the study. The information given by the child was processed confidentially, and the data were stored appropriately. (Alderson 2004, Burns and Grove 2001, ETENE 2001a, Murray 2000, Munhall 1999.)

In this study, the data were gathered by means of a semi-structured interview. Interviewing children is a challenging task, but it can be used successfully with children from pre-school age. At that age, children have developed the basic skills necessary for a successful verbal exchange (Borger et al. 2000, Mac Naughton et al. 2001, Eder & Fingerson 2002). The reason for interviewing children was to allow them to give voice to their own interpretations of their experiences and thoughts rather than rely solely on the adult interpretations of their lives. Another reason for interviewing children was to study those topics that are salient in their lives. The semi-structured interview was also seen as a method that avoids undue intrusion, is non-confrontational, is participatory, and encourages children to interpret their own data.

The interviewers were instructed to handle their role as a sensitive, empathetic and caring adult, and that the relationship between the child and the interviewer is based

on trust and mutual respect. They were also instructed to create an environment and atmosphere in which the child feels safe, supported and valued. Interviews proceeded on the child's terms and all the children also got a small reward, e.g. a sticker, after the interview. The parents could take part in the interview if they wanted to. (Birbeck & Drummond 2007, Eder & Fingerson 2002, Burns & Grove 2001, Miller 2000, Munhall 1999.)

5. Results

5.1. Participants of the study

The interviews on hospital-related fears were carried out with 94 children, and on coping strategies with 89 children. The children were interviewed in hospital in two paediatric surgical, and two neurological wards, and in 13 different kindergartens. One of the children forbade the tape-recording, one fell asleep before the interview began, and two did not want to discuss their fears at all. The interviews of these children were not used in analyzing the data. Thus, the final data consisted of 90/89 interviews.

Table 13. The number and the gender of the participants (n. 179)

The gender of the participants	Hospital-related fears study		Coping with hospital-related fears study		Sum
	Hospital	Kindergarten	Hospital	Kindergarten	
Girls	9	25	17	31	82
Boys	18	38	23	18	97
Sum	27	63	40	49	179

There were 82 girls and 97 boys who participated in the studies (Table 13). Sixty of the children were 4 years old, 54 were 5 years old, and 65 were 6 years old (Table 14). The participants represented ordinary Finnish children, interviewed in public kindergartens and in a university hospital. The children interviewed in hospital were admitted to hospital because of a short-term illness or a single operation or examination. Kindergartens were located in every main district of the metropolitan area. Children interviewed in kindergartens had formed their conceptions of hospital-related fears, and coping with hospital-related fears from their experiences of visiting a child health clinic, a doctor, or a dentist.

Table 14. The age of the participants (n. 179)

The age of the children	Hospital-related fears study		Coping with hospital-related fears study		Sum
	Hospital	Kindergarten	Hospital	Kindergarten	
4 years old	8	26	13	13	60
5 years old	10	20	12	12	54
6 years old	9	17	15	24	65
Sum	27	63	40	49	179

The interviews were performed in hospital in the child's own room and in kindergarten in a private room, without the presence of other children. In hospital, all parents took part in the interview, or at least some part of it, but in kindergarten the parents were not present. The atmosphere during the interviews was confidential and relaxed, however in some situations there were disturbing factors, e.g. in hospital children were medicated or other children interrupted the interview.

5.2. The experience of hospital-related fear of a 4-6-year-old child

The 4-6-year-old child's experience of hospital-related fear consists of the fears of the child, the emotions and expressions of child, and the meaning of hospital-related fear to the child (Figure 3).

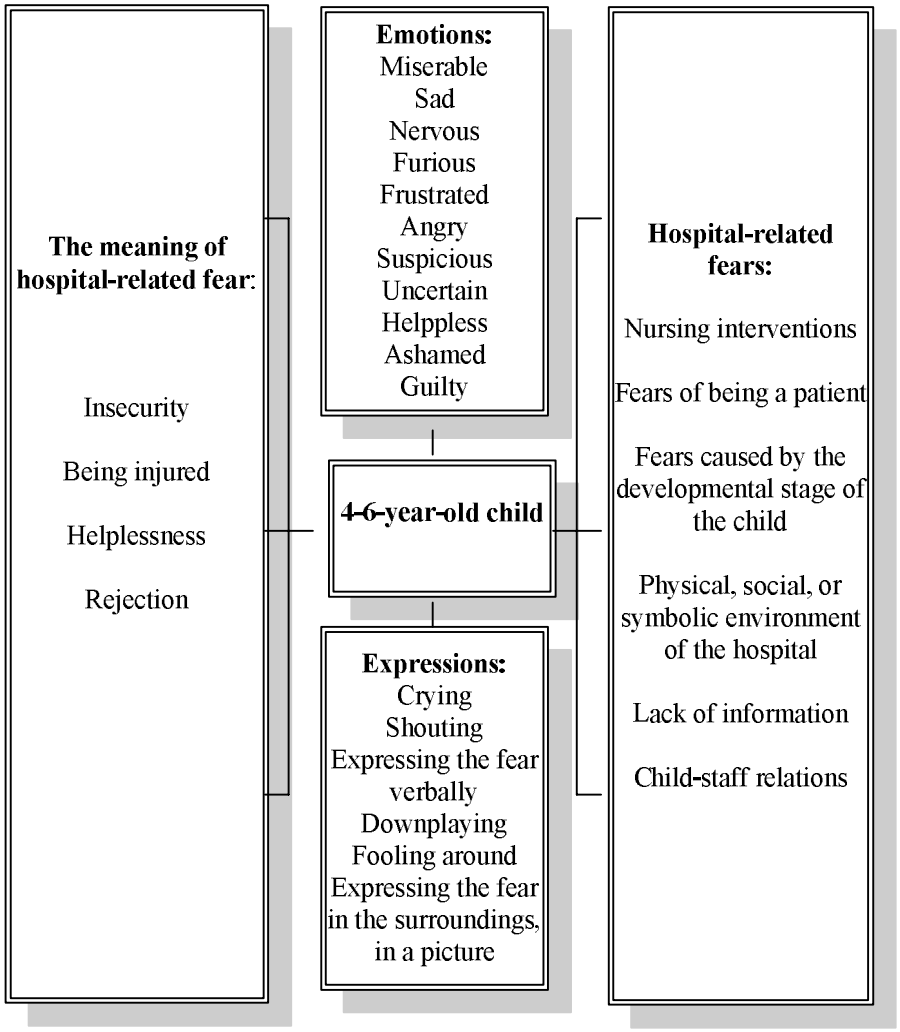

Figure 3.The experience of hospital-related fear of a 4-6-year-old child

Hospital-related fears of a 4-6-year-old child.

In this study, the participating children (N=90) mentioned 441 expressions of fear related to hospital. The children expressed 29 different types of hospital-related fears. The number of child-reported fears ranged from no fears to 22 fears; the mean number of expressions was 4.9. The mean of the number of fears expressed by girls was 4.44, and by boys 5.18. (Paper I).

The most fears were categorized in the category of nursing interventions. The children reported that they were afraid of shots and tests, sample-taking or examinations, and other nursing interventions. The second largest category consisted of fears of being a patient. More than half of all the children said they were afraid of pain, and more than a quarter of them feared being admitted to hospital. The third largest category consisted of fears caused by the developmental stage of the child. In this category, the most common fears were the fear of being left alone and fears created by the child's own imagination. Some children reported they were afraid of the social environment of the hospital, e.g. separation from the parents, as well as physical or symbolic environment, factors related to the child-staff relations, the unfamiliar environment or, the lack of information. (Table 1 in Paper I.)

Children interviewed in the hospital expressed substantially more fears than children interviewed in kindergarten. Fears related to bodily injuries and the hospital facilities were the only ones that occurred more often in the children in kindergarten than in hospitalized children. Among the children in the hospital, 70% said they were afraid of pain, 52% of shots and other nursing interventions, 41% of being admitted to hospital, and 37% of sample-taking and tests. The fears that the children in kindergarten expressed most often were the fear of pain (51%), shots and sample-taking (49%), and tests (31%). When the fears of children in kindergarten were compared with the fears of children in hospital using the Pearson Chi-Square test, the hospitalized children expressed statistically significantly more often fears of being admitted to hospital (p=.001), doctors (p=.043), other nursing interventions (p=.009), and operations (p=.021), than children in kindergarten. (Table 3 in Paper I.) When examining the fears according to the categories based on the typology of nursing domains, in the hospital, children significantly more often mentioned fears related to being a patient (p=.007), to the developmental stage of the child (p=.028), to the relationship between the child and the staff (p =.008), and to nursing practice (p=.007). (Table 3 in Paper I.)

The emotions linked with hospital-related fears

The children described their emotions in relation to the hospital fears as *"blue, sad, cross, angry, furious, nervous and miserable"* or said that it *"feels bad"*. Some of the children interviewed in the hospital, in particular, expressed a sense of misery and unhappiness in their answers**.** The children answered questions by whispering, by turning their face away from the interviewer, or were unassuming and taciturn. It was at times difficult for the children to express their emotions in words, despite the fact that they had previously described the frightening experience. Some of the children also conveyed a sense of shame, guilt, anger and frustration in their answers (Figure 3).

The expressions of hospital-related fears in children

When describing experiences that had caused fear, children reported they *"cried, shouted, and were afraid, felt bad, unhappy, stupid, strange or silly*". They also said it was *"hard"*, that they *"felt sad"* or *"nervous"*, or *"I don't like it"*. The children described the object of their fear with the adjectives *"evil, naughty, bad, nasty, ugly, stupid, silly, boring, horrible, terrible"* and *"difficult*". (Figure 3.)

The children pointed out the object of their fear in a picture, in the surroundings, or on their own body, e.g. an operation wound. Some of the children downplayed their fear, used medical concepts or asked questions, or made up an imaginary story about the object of their fear. On the other hand, children also fooled around and made jokes, exaggerated their experience, or expressed their feelings untruthfully.
(Paper IV.)

The meaning of hospital-related fears to a 4-6-year-old child

The meaning of hospital-related fears to a 4-6-year-old child consisted of four main clusters: insecurity, injury, helplessness, and rejection (Figure 3).

Insecurity. The cluster of insecurity consisted of three themes: the feeling of insecurity experienced in a new situation, during separation from parents, and from distrust towards the help of adults. Also the child´s other fears, experienced in his or her everyday life, were reflected in the experience of hospital-related fear.

In hospital, children have to face many unfamiliar events, the meanings of which they do not completely understand. The disease itself, nursing procedures, the physical surroundings of the hospital, and unfamiliar people caused feelings of insecurity in the children.

Separation from parents caused feelings of insecurity. Children described feeling fear especially in situations they had to face alone, without the security offered by their parents. The insecurity was expressed as increased dependency on parents, and as homesickness.

Distrust towards the help of adults arose from such adult behaviour that the children considered threatening or untruthful. As a result of their initial distrust, the children denied the help of adults and decided to rely on themselves. (Paper IV.)

Being injured. The cluster of being injured included the themes of being hurt, resistance, and protecting oneself. The children felt they had been hurt if nurses or doctors carried out frightening and pain-inducing procedures on them against their will. The 4-6-year-old children felt that adults were harming them or subjecting them to danger, which often caused them to feel that the inviolability of their body had been threatened or compromised. Also, undressing and nudity violated the children's sense of personal intimacy and the inviolability of their body.

The threat of injury led to resistance and efforts by the children to protect themselves. The children tried to resist nursing procedures through words or actions, e.g. through hiding, escaping, or closing their eyes. (Paper IV.)

Helplessness. The cluster of helplessness was constructed from the following themes: feeling of inadequacy, loss of self-control, regression, and submission.
The children expressed a feeling of inadequacy when they felt they did not fulfill the adults' expectations, were not accepted, or were forced to depend on adults more than usual. Loss of self-control became evident when the children felt that they were not allowed to make up their own minds, as they did in their everyday life. Children manifested a process of regression. Some of the children acted ineptly, described themselves as younger than their actual age, and their verbal expressions often turned childish.

In response to feelings of helplessness, some children became submissive. The children claimed that adults were indifferent to them and treated their wishes as insignificant. These children were quiet, passive, and found little joy in their life. Children also denied having received any help from the nursing personnel. (Paper IV.)

Rejection. This cluster included the themes of contradictory expressions describing the fear, denial of the fear, and transferring the fear. The children frequently expressed their fear in a contradictory manner or denied it. At first they could deny their fear, then discover the fear in another child, and only after that admit their own fear, or

even at the same time, admit and deny the fear. Sometimes the children denied the fact that they were afraid, even though they described having cried and resisted the nursing procedure. (Paper IV.)

5.3. The experience of coping with hospital-related fears of **a** 4-6-year-old child

The 4-6-year-old child's experience of coping related to hospital fear consists of the coping strategies of children, the emotions and expressions of children, and the meaning of coping to the child (Figure 4).

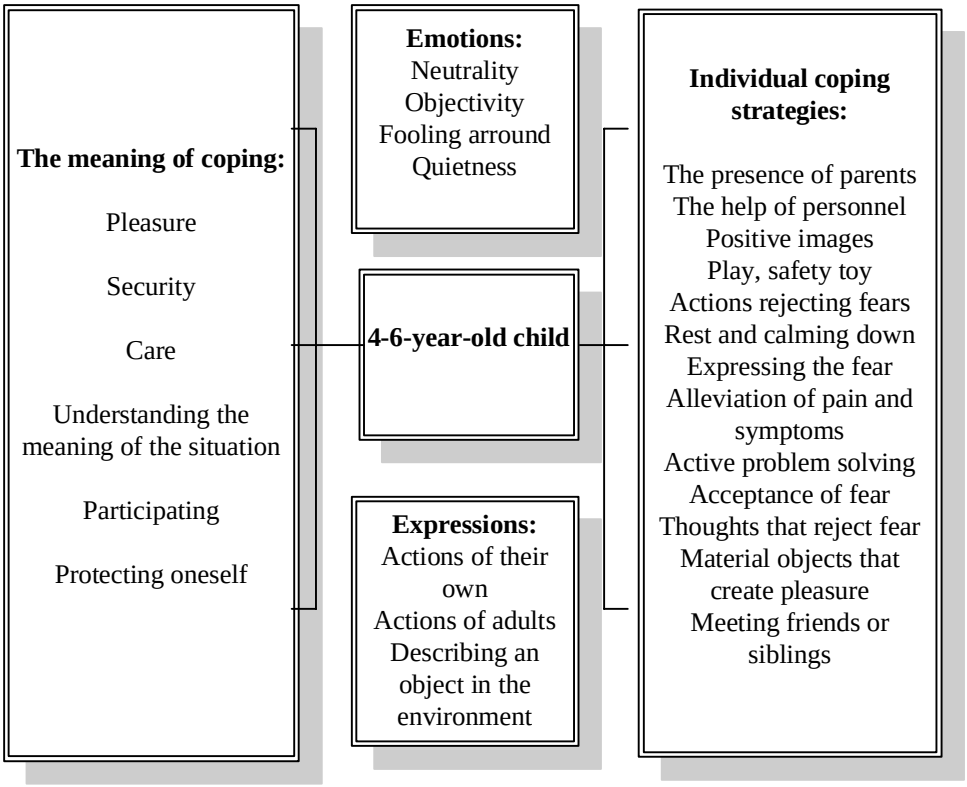

Figure 4. The experience of coping with hospital fear of a 4-6-year-old child

Coping strategies for hospital-related fears in a 4-6-year-old child

The data included a total of 517 expressions of coping. The children (N = 89) expressed 75 different types of coping strategies. The number of child-reported coping strategies among children interviewed in kindergartens ranged from one to 12 (mean 6.7), and in hospital from one to 23 (mean 5.8). (Table 1 in Paper II.) The mean of the number of coping strategies expressed by girls was 6 and by boys 7. Boys expressed statistically significantly more often playing and games (p=.074), and girls the help of the doctor (p=.011). (Paper II.)

The most coping strategies were categorized in the categories of the presence of parents (70%, N=89) and the child's own toy (34%). The next largest categories consisted of the care of the nurse, play, and the presence of grandparents or other adults important to the child. (Table 2 in Paper II.)

When the coping strategies were categorized according to their contents into 14 categories, the largest category was the presence of parents or other family members. The coping strategies in which the children described hoe the fear was alleviated by the proximity of supporting family members were placed in this category. The second largest category was resorting to the aid of the personnel. The next largest categories were positive images and humour. The coping strategies concerning the child's own safety toy were placed in a category of their own (Table 2 in Paper II).

Approximately 30 mentions were categorized in the category for action that rejects fear, which reflected the children's own efforts to resist the fear-inducing event or to escape the situation. The children mentioned rest and calming down, along with alleviating and expressing fear and the symptoms of the disease as almost equally significant strategies for coping. The latter category included both the nursing offered by the personnel and the children's own actions to alleviate the pain and the symptoms. The children reported that they can also manage hospital fears by being courageous and active themselves, and by trying to become familiar with the event that causes fear. Expressions reflecting these kinds of coping strategies were categorized as problem solving. Expressing fear and asking for help are also children's ways of managing the fear. (Table 2 in Paper II.)

Coping strategies in which the children said they managed their fear, e.g. by consoling themselves or by getting used to the situation were categorized as acceptance of fear. Expressions which described the children's own efforts to reject fear through thinking were placed in the category of thoughts rejecting the fear. The smallest categories describing coping strategies were formed from two categories: the category of material objects that create pleasure, and the category of meeting friends and siblings. (Paper II.)

The children interviewed in hospital statistically significantly more often mentioned play ($p<.000$), their own safety toy ($p=.044$) and thoughts rejecting fear ($p=.052$) as their coping strategy, than children interviewed in kindergarten (see Table 2 in Paper 3). Children interviewed in kindergarten expressed statistically significantly more often than hospitalized children the presence of parents ($p=.032$) and the help of the doctor ($p=.012$) as their strategy for coping. Children interviewed in hospital mentioned somewhat more often than children in kindergarten, positive images and humour as their coping strategy. (Table 3 in Paper II.)

The expressions and emotions of coping with hospital-related fears

The children expressed their coping with hospital-related fear through their own actions or those of adults: what they could do or think themselves or what their parents, nurses or doctors could do. The children used the terms "*to help*" and "*to ease*", but also the expression "*It would be nice if".* The children also described the objects in the hospital environment that could alleviate their fear, e.g. toys and beautiful objects. (Figure 4.)

Most often the children described their coping in a neutral, matter-of-fact way, some of them by fooling around and joking. Especially some of the children interviewed in hospital discussed their coping quietly and in only a few words. Often these children mentioned only a few coping strategies, or stated, e.g. that something "*helps a bit*". (Figure 4.)

The meaning of coping with hospital-related fears among a 4-6-year-old child

The meaning of a 4-6-year-old child's coping with hospital-related fears consisted of six main clusters: pleasure, security, care, understanding the meaning of the situation participating, and protecting oneself (Figure 4.) (Salmela et al. unpublished results).

Pleasure. The experience of coping with hospital-related fears arose from the feeling of pleasure. The pleasure cluster was constructed from the themes of playing, humor, the esthetic nature of surrounding, learning, gifts, and positive images. Playing was the factor that most of the children mentioned as bringing them pleasure, and as helping them to cope with their fears. The children described how they experienced pleasure also from good humour, the aesthetic nature of the environment, and from learning new things. The children also said that they appreciate all the additional attention they receive from adults in hospital, e.g. presents.

The positive images theme was constructed from significant statements such as thinking about nice things, optimism, and thinking about home and the child's usual activities. The children said that using one's imagination and thinking of familiar, funny things helps the frightened child. Moreover, an optimistic way of thinking represents positive images. The children expressed an optimistic way of thinking when they described their fear as being alleviated when they reflected on their recovery, the alleviation of their symptoms, and on getting home. Moreover, thoughts of home and everyday routines of the child were included in positive images.

Security. The experience of security related to the coping included the following themes: the presence of parents, the child's own toy, experiences of proximity and tenderness, and confidence. The children described their constant need to remain near their parents and to maintain contact with other family members. If the parents cannot be with the children in hospital, the children miss them and find security in such thoughts. Another often mentioned element that created security was the child's own toy. The children described how it is important for them to have their toys or other safety objects with them in hospital, so that they can squeeze them and hold them close. Providing tenderness and intimacy was a part of security that both the parents and personnel can give the children.

What strengthened the feeling of security was the experience of confidence, which included the children's self-confidence, their trust in their parents, and in the personnel. Self-esteem, confidence in their own coping, and courage were meanings of children's experiences related to coping which were integrated into the theme of confidence. Especially in younger children, self-confidence was sometimes reflected in thoughts of omnipotence. The themes of the trust in parents and in personnel contained expressions of coping where children described their confidence in adults and, e.g. in the information received from adults.

Care. What also helped the per-school-aged children to manage their fears was their experience of the adults caring for them even in hospital. This cluster included the themes of alleviating the children's symptoms and pain, wellbeing, and being taken into account. Taking care of the everyday well-being of the children, e.g. their need of food and drink was included in the theme of well-being.

Understanding the meaning of the situation. The cluster of understanding the meaning of the situation included the themes of thinking about the frightening situation, acquiring information, and readjustment. The child reflects on a frightening situation, tries to form an overall picture of it by observing the actions of the adults and the environment for information, and asks questions concerning the matter. When the children understand the meaning and importance of frightening situations, they try to adjust to the demands of the adults by following instructions as their coping strategy. What also represents readjustment is the ability of the children to consciously control their own mind and body by relaxing and calming down. Sometimes readjustment is expressed as the children's submission.

Participating. The children said that the experience of taking part in their own care would help them to cope with their fears. The basis for the experience of participating was that children could express their fears, their own will, and their views. The theme of expressing the fear was composed of the children's descriptions of coping with fear by expressing it through crying, or through facial expressions and gestures. The theme of speaking about the fear was composed of experiences where children expressed their fear verbally. The fear can also be alleviated by letting the children take part in decision making concerning themselves.

Protecting oneself. The cluster of protecting oneself was composed of seven themes: denying, transforming the object of fear into something nice, resisting, escaping, preparing oneself for the situation, distraction, and habituation. Children described how they can protect themselves from fear by denying the existence of the object of fear, by underrating it or by refusing to look at or think about the frightening matter. The children could also convert the frightening matter into a familiar and a pleasant one in their mind. If the adults refuse to comply with the will of the children, they may resist the adults and their actions, which would ease the children's fear. In addition, trying to leave the situation by, e.g. escaping, hiding or by falling asleep, preparing oneself for the frightening situation beforehand, as well as turning one's attention elsewhere, can be seen as protecting oneself, along with getting used to the situation, so that it no longer frightens the children as something new. (Salmela et al. unpublished results).

5.4. **A** descriptive model of hospital-related fears and coping strategies of 4-6-year old children

One of the aims of this study was to construct a descriptive model of 4-6-year-old children's hospital-related fears and coping with the fear. The experience of a 4-6-year-old child's hospital-related fear consists of the common fears of children, the emotions and expressions of frightened children, and the meaning of hospital-related

fear to the child. Children often describe themselves as feeling miserable or sad when they have to face frightening situations in hospital. Commonly, they express this verbally or by crying. The meaning of fears emerges as a feeling of insecurity in a new situation encountered without the support of parents, and from distrust towards the help of adults. If children have to face frightening events or nursing procedures which cause pain or the threat of pain to children, they may consider the procedures as harmful. As a response of the experience of being hurt children try to resist the frightening procedure or try to protect themselves from it. These experiences cause the feeling of being injured in children. In hospital, children may feel that adults restrict their needs and actions and present them with demands they consider unreasonable. Such experiences may cause fear, feelings of inadequacy and loss of self-control in children, and may provoke regression and submission in the child. Sometimes the children find it difficult to admit their fear to adults, and they try to reject the fear by denying their experience or by transferring it elsewhere. (Figure 5.)

The experience of a 4-6-year-old child's coping strategies related to hospital fear consists of the coping strategies of children, the emotions and expressions of children, and the meaning of the coping strategies of the child. The children utilise their individual coping strategies in hospital in situations that cause them fear or a sense of insecurity. The factors that strengthen the coping most are the children's experiences of pleasure and positive images. The children find most pleasure during play and games. The experience of security is a prerequisite for the coping of the children. The experience of security is related to the presence of parents, to the children's ability to trust themselves, their parents and the personnel, and to the caring experienced by the children in hospital. The experiences of understanding the meaning of the situation and taking part in decision making that concerns selves are all also related to coping. If the children cannot cope with the support of adults or with their other active strategies, they shield themselves in a frightening situation. (Figure 5.)

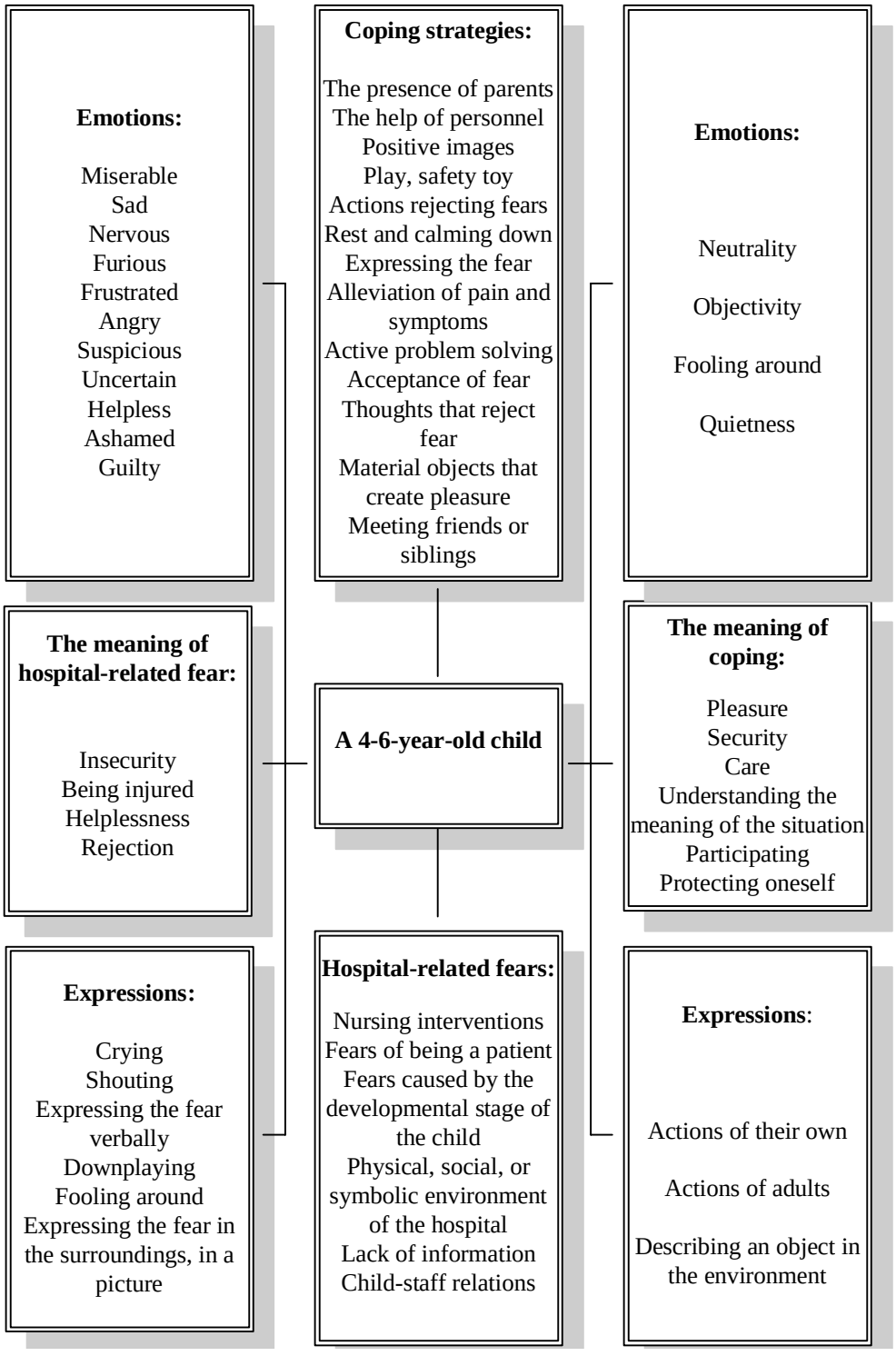

Figure 5. A descriptive model of 4-6-year-old children's hospital-related fears and coping strategies

6. Discussion

6.1. Limitations of the study

The trustworthiness of this research was reviewed through the concepts of credibility, transferability, dependability and confirmability.

The credibility focuses on the degree to which the findings of the research make sense, and depends on the use of rigorous methods, and the credibility of the researcher. The credibility can be built up through close engagement in the field and persistent observations. (Patton 2002, Lincoln & Guba 1985.) The credibility of the results may have decreased since it was the nurses who provided parents with information on the study; it was not possible to control the information provided, especially because the nurses' and the kindergarten personnel's commitment to the study may have fluctuated. On the other hand, trustworthiness was increased by the giving of oral and written information on the study to the nurses by the researcher and the interviewers (Burns & Grove 2001).

The credibility of the results of this research may have decreased as a result of using several interviewers and the different circumstances of each interview. It is also difficult to estimate or control the significance of how parents and nurses contributed to the interview.

The credibility was assured by training the interviewers, by requiring pilot interviews, by structuring the interview process in advance, by listening to all the recordings of the interviews, and by checking that the transcriptions had been made reliably. Pilot interviews were not used in analyzing the data. All interviewers had studied the nursing care of children and also research methods, a fact which increases the trustworthiness of the results. They had studied the developmental stage of a 4-6-year-old child, especially the child's way and ability to express him/herself and interact with adults. Observations of the children made by the interviewers were added to the data to be analyzed in the cases where the observations clarified the child's answer. The children's own answers were added to the description of results (Vivar et al. 2007, Roberts et al. 2006, Rolfe 2006, Burns & Grove 2001, Cohen & Knafl 1993, Cohen & Knafl 1993, Lincoln & Guba 1985).

Only a few methods of data collection are suitable for young children, and through which it is possible for the child to describe his or her own thoughts and experiences (Borgers et al. 2007, Barker & Weller 2003). There are studies in which, for example, draw-and-tell conversations (Driessnack 2006), children's drawings (Brewer et al. 2006), and different Visual Analogue, Fear, Anxiety or Aversion Scales (Kettwich et al. 2007, Chiang et al. 2006.) have been used. This study was concerned with hospital-related fears and coping strategies with the fear expressed by the child him/herself, which is why the data were collected by semi-structured interviews supported by pictures. Because of its flexibility, the semi-structured interview was suitable for 4-6-year-old children, and helped the children to express the variety of their fears and coping strategies. The themes directed the progress of the interview, but the children were able to specify the content according to their own experiences and images of

hospital-related fears and coping with the fear (Irwin & Johnson 2005). To ensure consistency, all the interviews were based on standardized themes and were supported by the interview guide (Rolfe 2006, Roberts et al. 2006, Deering & Cody 2002, Cohen & Knafl 1993, Patton 1990). The interview themes and guide were derived from the theory of coping and earlier knowledge of children's hospital-related fears and coping strategies, but the analysis was based solely on the experiences of the participants.

The prerequisite for a successful interview was a confidential and friendly atmosphere in which children had the courage to express their thoughts (Deering & Cody 2002). The credibility of the interview was assured by using words that were concrete and familiar to the child. The fact that children usually answer "yes" or "no" or "I don't know" was taken into account (Kortesluoma et al. 2003, Carney et al. 2003, Eder & Fingerson 2002, Zoppi & Epstein 2002, Docherty & Sandelowski 1999). During the interview it was possible to take into account the child's vocabulary and individual way of communicating. It is also often difficult for a child to disagree with adults, and thus they are likely to answer as they think is acceptable. The interviewer emphasized to the child that everything he or she said was important and that there were no wrong answers (Hale et al. 2007, Nurmi et al. 2006, Kortesluoma et.al. 2003, Carney et al. 2003, Zoppi & Epstein 2002, Eder & Fingerson 2002, Burns & Grove 2001, Miller 2000, Docherty & Sandelowski 1999). Thanks to the questioning approach, it was easy for the children to identify with their impressions and experiences of hospital and discuss their own thoughts. However, it is possible that the questioning might, to a certain extent, have prompted the answers of the children.

Differences in the children's personality and developmental stage might decrease the trustworthiness of the results. The children's ability to concentrate and their interest in the subject varied as did their individual ability to verbalize their feelings and thoughts. The pictures helped the child to become interested in and concentrate on the conversation, as well as connect his or her own experiences to the subject and express his or her own feelings. (Carney et al. 2003, Deering & Cody 2002, Styles & Arizpe 2001, Doverborg & Pramlin 2000.) However, it is possible that the pictures might, to a certain extent, have prompted the answers of the children. The fact that the pictures had cheery motifs and colours might decrease the trustworthiness of the results. The use of other, perhaps more realistic and possibly alarming pictures might have brought out more hospital fears and coping strategies.

Transferability means that the researcher provides a detailed description of the setting in which the research is conducted. The aim is to give readers enough information for them to judge the applicability of the findings to other settings (Patton 2002, Lincoln & Guba, 1985). In this research, one of the aims was to give the pre-schoolers themselves the opportunity to discuss their hospital-related fears and coping with the fear. The participants represented ordinary Finnish children, who were interviewed in public kindergartens, which were located in low, middle, and high socioeconomic districts of the city, and in a university hospital. In Finland, all families have the right to send their children to public day nursery by law (Act 1973/36).

The phenomenon of hospital-related fear and coping with the fear was examined from the perspective of both healthy and sick children, in order to obtain a large amount of information and to determine the experiences of fears and coping with the fear in children. This may be considered to increase the transferability of the results. The

children form their conceptions of hospitals, possible fears related to them, and coping with the fear on the basis of all the experiences they have had of health care services.

The interviews of children in kindergarten and in hospital were first analyzed as one entity, with the aim of understanding the meaning of hospital-related fear and coping with the fear. After this, the data from kindergarten and hospital were analyzed separately, in order to understand the meanings of fear and coping for children who at the time of the interview were admitted to hospital, and for those whose experience of hospital-related fear and coping with the fear were formed from their experiences of visiting a child health clinic, a doctor or a dentist. All the children interviewed in kindergarten had experiences of health care services, and their image of hospital and possible fears related to it and coping with the fear were based on these experiences. According to the phenomenological research tradition, the informants always find their experience real, regardless of the basis of the experience (Higginbottom 2004, Miller 2000, Crotty 1996).

The sample size is considered to be acceptable as the intention was to describe the essential structure of children's hospital-related fears and coping with the fear. Children provided unique information from their own perspective (Vivar et al. 2007, Higginbottom 2004, Irwin & Johnson 2005). When considering the sample size, the risk of being forced to reject some interviews because of the number of interviewers was taken into account. However, all the interviews were accepted and analyzed. The saturation of the data was assured during the analyzing phase. All the interviews were analyzed, even though the data obtained from kindergartens were saturated after the 38th (hospital-related fears) and 29th (coping with the fear) interview and from the hospital after the 22nd (hospital-related fears) and 35th (coping with the fear) interview, after which no new significant expressions were found (Higginbottom 2004, Vivar et al. 2007).

When considering the trustworthiness of the results for coping strategies the inter-rater reliability was assessed by calculating Cohen's Kappa as a measure of agreement between two individuals. Nine (10%) of the interviews were analysed by two researchers and Cohen´s Kappa values were calculated. The kappa value was 95% which can be considered good (Staimler 2001, Burns & Grove 2001).

Dependability and confirmability. Dependability is an assessment of the quality of the integrated processes of data collection, data analysis, and theory generation. Confirmability is a measure of how well findings are supported by earlier information. (Lincoln & Guba, 1985.) Colaizzi's method was chosen as it provides a systematic account of the procedural steps involved in data analysis. This may increase the confirmability and dependability of the results, as well as the maintaining level of accuracy from data collection to analysis of the results. Earlier information supports the results of this study concerning the way children express their fears through their behaviour, expressions and gestures, and partly, concerning the meaning of fear to children.

The results also confirm that crying, escaping, expressing the fear verbally, getting information, participating in decision making, distraction, and the physiological needs of drinking or eating are strategies that help the child to cope with hospital-related fears (Wennström & bergh 2008, Justus et al. 2006, Lindberg & von Post 2005, 2006,

Dreger & Tremback 2006). The dependability and credibility of the phenomenological analysis was achieved through peer- debriefing with a qualitative method expert who also supervised the whole research process. The researcher kept a study diary and assessed the influence of her background and perceptions on the findings, as well as documenting the decisions and the reasoning that entered into each decision. In this study, it was decided not to validate the results by giving them to the participants, because of the ethical implications of the participant's age. (Finlay 2009, Roberts at al. 2006, Priest 2002, Hallet 1995, Lincoln & Guba 1985.)

6.2. Interpretation of findings

This study differs from earlier studies because of the aim, the informants, and the data collection method. Earlier studies, in which the data have mainly been collected by observing the children or interviewing adults, have focused on the fears and the coping of children, e.g. through the day-surgery process, painful procedures, or the hospital experience of children in general. In this study, it was looked more closely at the child's own expressions about hospital-related fears and coping with the fear. Both children in hospital and in kindergartens were interviewed, in order to get a large amount of information, and to be able to describe the differences between these children in the results. The findings of this study integrate earlier information on the hospital-related fears of young children and their coping with the fear, and the experiences of hospital-related fears and coping with the fear, but also provide new information.

The results of this study revealed that 91% of pre-schoolers said they are afraid of at least one subject related to hospital or medical procedures. The percentage is larger than in earlier studies (Rossen & McKeever 1996). Among children interviewed in kindergarten, 9% expressed no fear, 63% expressed 1-6 fears, and 24% more than 7 fears related to hospital. Among the children interviewed in the hospital, a little more than half (52%) expressed 1-6 hospital-related fears, and 48% more than seven fears. All children who were interviewed in the hospital expressed at least one fear related to hospital.

According to this study, the fears expressed the most often by 4-6-year-old children were caused by the nursing practice (29%), for example, the fear of shots, sample-taking and tests, other nursing interventions, operations, and medication. Almost as many fears were categorized as fears of being a patient (28%), such as the fear of pain, being admitted to hospital, staying in hospital, and the symptoms of a disease. The third largest category consisted of the fears related to the developmental stage of the child (14%). In this category the children most often mentioned the fear of being left alone in the hospital. More than 20% of pre-schoolers mentioned that they were afraid of being left alone in the hospital. Less than 10% of pre-schoolers stated that they feared new and unfamiliar experiences, the lack of information, the physical environment of the hospital, and the child-staff relations.

It is difficult to compare the results concerning the number of child-reported hospital fears with earlier studies, because only very little similar information on pre-schoolers is available. In Ivanoff's study (1999), nine 5-6-year-old children were interviewed

about their hospital fears. According to Ivanoff´s study, the main themes of 5-6-year-old children's hospital fears were the unfamiliar environment, the feeling of abandonment, injuries to the body, pain, restriction of self-determination, and submission. Similar fears also occurred in this study, but except for pain, children expressed more fears related to nursing interventions, such as the fear of shots, sample-taking and tests, and only seldom (10-16 % of children) the other main fears expressed in Ivanoff's study. In the qualitative study of Flinkman and Salanterä (2004), 25 children aged 5-6 years were interviewed during a day-surgery procedure. In this study, the children mentioned 24 different fears, of which the most important were the fears related to nursing treatments and anaesthesia. In this respect, the results were similar to the results of the present study, in which the main individual fears reported by 4-6-year-old children were the fears of pain and shots. The result concerning the fear of injections supports the findings of earlier studies. According to the study of Kettwich et al. (2007), 68% of children suffer from needle phobia.

Children expressed 29 different hospital-related fears. In the data there were 17 fears that had also been mentioned in earlier studies, and 12 fears that became evident in this study, as reported by the child. These fears are familiar from the childcare literature but were not referred to in the 200 studies that were reviewed for the literature review of this study. These 12 fears reported by the children in this study were: (a) staying in the hospital (26% of children), (b) being left alone in the hospital (21%), (c) being admitted to the hospital (19%), (d) new and unfamiliar experiences (17%), (e) doctors (14%), (f) the facilities (10%), (g) smells and noises of hospital (12 %), (h) nurses (11%), (i) getting ill (7%), (j) hospital rules (2%), (k) falling asleep in the hospital (2%), (l) and other patients (1%). The only fears that occurred in earlier studies but were not mentioned by the children in this study were the fears of failure and being rejected.

One of the main findings of this study was that more fears were present in hospitalized children than in their peers, which may suggest that being treated in hospital increases the number of hospital-related fears in 4-6-year-old children. Children in the hospital reported fear of being admitted to hospital more often than children interviewed in the kindergarten. Moreover, children in the hospital reported the interaction between the children and the staff, especially between the children and the doctors, nursing interventions, and operations, more often than children in the kindergarten.

When analysing the data of hospital-related fears, the results were classified into categories drawn from the domains of nursing (Kim 2000, Kim & Kollak 1999). Kim proposed a systematic framework that can be used to examine elements in the fields of nursing. The typology is composed of four domains: client, client-nurse, practice, and environment (Kim 2000, Kim & Kollak 1999). When examining the present results according to the domains of nursing, it is obvious that about half of the fears (49%) can be placed in the category of the client domain: fears related to being a patient, the developmental stage of the child, unfamiliar experiences, and lack of information. Another main domain that causes fear in children is nursing interventions (29% of expressions). Less than 14% of all the expressions of fears were related to the facilities of the hospital. The main individual fear in this category was the fear of separation from family. Fears related to the symbolic environment of the hospital, for example the fear of rules and regulations, were mentioned by only one child. Earlier

studies on the hospital fears of children using the domains of nursing for categorization were not available. The categorization used in this study proved to be functional. It was possible to classify all the expressions of fear by the children, and no category was left empty. Because the categorization is based on the main domains of nursing, the results can be used when preventing, identifying, and relieving the fears of hospitalized pre-schoolers.

The results offer new information on the meaning of fears to children. Children's needs in hospital have earlier been reported (Pelander 2008, Pelander & Leino-Kilpi 2004, Smith & Callery 2004, Runeson 2002), e.g. their need to have their parents close by (Björk et al. 2006, Lindeke et al. 2006), and the need for physical and emotional satisfaction (Björk 2006), but no earlier studies concerning the meaning of hospital-related fear to pre-school-aged children were found.

The results also confirm earlier knowledge of children's ways of expressing their fear (Wennström & Berg 2008, Koenig et al. 2003). This study reinforces earlier knowledge of the ways in which children deny their fear, and how they express it in a contradictory manner, or by under-rating concepts, and transfer it to another object.

The present study described the ways in which pre-school-aged children cope with their fears related to hospitalization and medical procedures as reported by the children themselves. The results offer new information on the coping strategies that matter most to children themselves. In addition to the support of adults, free play, watching television, various games and hobby crafts, and the child's own safety toy are all essential strategies for coping among pre-school-aged children in hospital. Equally important are the creation of positive images, maintaining them, and humour.

The results showed that children have many coping strategies, especially strategies in which the children themselves play an active role. Of all the 517 coping strategies expressed by the children, in only 150/517 (29 %) did the children play a passive role (the presence of family members, the help of the hospital personnel, and material objects). In the other 367/517 (71 %) expressions describing coping, the children themselves played an active role. Similar findings were not evident in earlier studies concerning children's coping with hospital-related fear. This may reflect the fact that in the earlier studies the children themselves were not asked about their coping strategies (Pinto & Barbosa 2007, Jan 2007, Vagnoli et al. 2005, LeRoy et al. 2003, Robinson et al. 1996).

According to this study, the number and content of coping strategies used by healthy children and children in hospital differed. Children interviewed in kindergarten expressed more coping strategies than sick children. It is possible that admittance to hospital and the illness caused stress, which decreased children's coping strategy reporting. On the other hand, in hospital, the children may have learnt which coping strategies helped them and which did not, so they reported only the effective ones. Healthy children said more often than hospitalized children that they cope with their fear with the help of their parents and the hospital personnel. Instead, the hospitalized children often relied on the coping strategies which included their own active role.

In this study, the children described a great variety of coping strategies. Both healthy and sick children could express their ways of coping with hospital-related fears, a fact

which is probably not sufficiently exploited. The significance of play, other activities creating pleasure, and positive images in the ability of children to cope with hospital-related fears were emphasized. In earlier studies, the part concerning the readjustment and activities of children that aims at understanding the situation has not been described. The results support the earlier studies on the significance of the parents (e.g. Rennic et al. 2002) and on resorting to the personnel (Jan 2007) as a coping strategy. The results also confirm that crying, escaping, expressing the fear verbally, getting information, participating in decision making, distraction, and the physiological needs of drinking or eating are strategies that help the child to cope with hospital-related fears (Wennström & Bergh 2008, Lindberg & von Post 2005, 2006, Dreger & Tremback 2006, Justus et al. 2006).

In this study, the coping was defined as the child's active attempts at cognitive, emotional and functional actions to master her/his hospital-related fears. Coping strategies refer to the specific efforts, both behavioural and psychological, that people employ to master, tolerate, reduce, or minimize stressful events (Lazarus & Folkman 1984). According to the results, the theory was useful, even though the function-oriented strategies were separated from other coping strategies. The child's coping with hospital-related fears includes cognitive-, emotion-, and function-oriented strategies. The strategies were cognitive-oriented when the children tried to eliminate the fear by, e.g. acquiring information, participating in decisions, or asking adults for help. Emotion-oriented strategies were used when the child handled the fear by, e.g. expressing the fear, thinking about nice things, or denying the fear. The child's playing, escaping, and resisting can be seen as function-oriented attempts to master the fear. Most coping strategies, such as seeking social support, serve both emotion- and problem–oriented functions simultaneously (Lazarus & Folkman 1984).

The results of this study correspond to the developmental stage of pre-school-aged children. Their dependence on parents, fears related to the violation of their body, fears of the unknown, and fears stemming from the imagination are typical of per-school-aged children. The significance of parents is essential for them, but their relations to other adults and children are starting to become important as part of their independence process; this could also be seen in the results of this study as resorting to the personnel and the significance of playmates in the child's ability to cope. Then again, the thoughts of omnipotence among younger interviewees correspond to their developmental stage (Santrock 2004).

6.3. Implications for nursing practice and research

In this study the children described their fear and coping with the fear in ordinary nursing and examination situations that are common in visits to the doctor and in hospital wards for children. An experience of hospital-related fear might be so traumatic that it influences the normal development of the child (Aley 2002). The fear damages the sense of security felt by the child, which can appear as an increased fearfulness in the child's everyday life. In such situations, feelings of fear limit the child's ability to learn new skills and to experience the joy of living (Strauss 2000).

Experiences of insecurity, vulnerability and helplessness may weaken the self-esteem and self-confidence of the child (Baumeister et al. 2003, Hoare & Mann 1994), as well as his or her faith in his or her ability to cope with new situations (Rennic 2002). The child's self-esteem may be disrupted if he or she feels that doctors or nurses in the hospital have violated their bodies and their sense of personal intimacy, which is related to possible emotions of shame (Margolin & Gordis 2000, Freeman et al. 1994). Hospital-related fears might also manifest themselves in the way the child relates to adults, especially health-care professionals, and thus weaken the child's willingness to trust them (Margolin & Gordis 2000).

There is no single method available to remove all hospital fears, but a prerequisite for eliminating fear is the hospital personnel's awareness of the issues that may cause fear in children and ways to support the child in coping with them. Alleviating pain caused by a disease or treatment decreases the child's fear and increases his or her feeling of safety. In addition to pain medication, the child needs support from parents and the personnel, information, and guidance. Hospital fear will also decrease if the physical environment of the hospital is made entertaining and safe. Becoming familiar with the instruments and machines of the hospital decreases the child's fear of the physical environment of the hospital. The fears of the child can also be prevented or alleviated by giving the parents information on the hospital-related fears, on the meaning of separation from parents to the child and by preparing the child before admission to hospital (Edwinson Mansson & Dykes 2004). Guiding the parents to support their child is also important.

The results show that besides the traditional strategies for alleviating fear, pre-school-aged children need active coping strategies that they can use themselves when they want to, regardless of the support of the parents, strategies that have an effect on their emotions and cognitions, and are suitable for their developmental stage (Salanterä, 1999). These methods alleviate the fear of the children, give them a feeling of control over the nursing situation, and the opportunity to participate in their own treatment (Salanterä 1999). The children are listened to, encouraged to ask questions and to ponder the meaning of the situation. They are given the possibility to participate in decision making, their trust in themselves and in the help of the adults is strengthened, they are guided to find positive images and, most of all, the possibility to play and experience pleasure is ensured. Extremely frightened, submissive and hopeless children, as well as their parents, need special attention in hospital in order to identify the children's fears and alleviate them.

It can be assumed that the children benefit the most from the ways of coping which they describe spontaneously and that portray active coping strategies. What was typical of the coping strategies described by the children was that they were familiar to them and a part of their everyday life. Supporting these ways of coping helps the children to cope best. Especially children, either healthy or sick, who describe only a few coping strategies or whose strategies represent mainly the strategy of protecting oneself, should be given a more active, positive role. (Figure 6.)

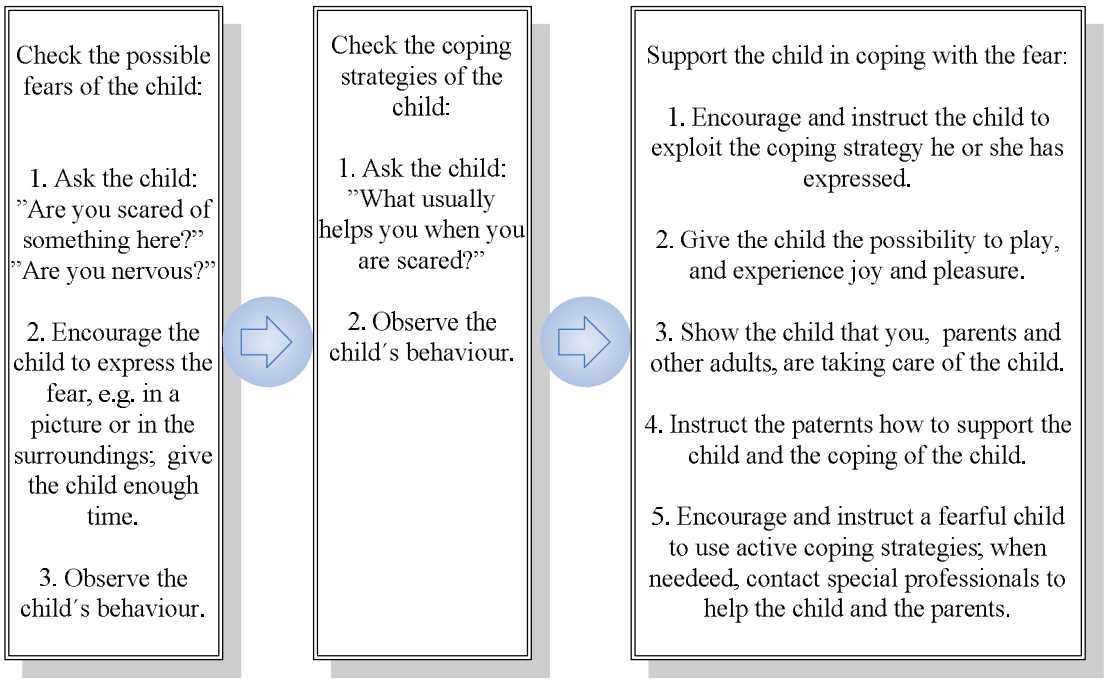

Figure 6. Summary of the implications for nursing practice

The results of this research described the subjective experience of hospital-related fears in both sick and healthy 4-6-year-old children, and the experience of coping with the fears. The experiences of hospital-related fears and coping were formed of experiences and images that the children had of hospitals and other health care services. It was not essential for the meaning of the fear and coping for the children themselves to have been admitted to or, e.g. have stayed overnight in hospital. The meanings were formed of the same kinds of elements, regardless of whether the children were in hospital or in kindergarten at the time of the interview. Nevertheless, only children in hospital included hopelessness and worrying over their parents in their descriptions of fear.

Children have been found to benefit from the teaching of cognitive-behavioural coping skills (Zelikovsky et al. 2000). Whether children should be taught several different coping methods or only a few should be studied. The results of this study suggest that children already have many coping mechanisms in which they play an active role, and that these mechanisms should be first evaluated and then supported. It is also important to recognize fearful children, whether healthy or sick, who describe only a few coping strategies or whose strategies represent mainly the negative strategy of protecting oneself. Those children should be supported and guided to use coping strategies that give them a more active, positive role. By listening to the child she/he is given the opportunity to report her/his own ways of coping in the stressful situation, and thus she/he can be given the most appropriate support. Qualitative research studies have demonstrated that very young children can provide important insights into their health experiences, so their views can and ought to be taken seriously (Irwin & Johnson 2005, Miller 2003). It might be useful to create a questionnaire or a list of coping methods for the parents and the child, and with its help find out the most effective way to support the child.

More research is needed on the situations and contexts that give rise to children's hospital fears and the consequences of these fears in small children. Research work is also needed on how nursing staff can recognise the fears and individual coping strategies of children, and support the coping of the child. Instruments for identifying children's hospital-related fears are needed, and also means of teaching the children to find new coping strategies.

6.4. Conclusions

The findings of this study have implications for both practice and research. It is hoped that this study will assist health care professionals in understanding the fears and coping strategies of 4-6-year-old children, and in implementing therapeutic interventions for such children to alleviate their hospital-related fears and support their coping strategies. The information can also be useful in preventing, identifying, and alleviating the hospital fear of healthy or sick children in hospital, at the doctor's or at the child health clinic. However, more training for health care professionals about the hospital-related fears and coping strategies for 4-6-year old children are needed to enable them to assess the child's fears and coping strategies, and to give appropriate guidance and support to the children and their parents. The assessment, implementation, and documentation of the child's fears and coping strategies should be included in the care of every pre-school-aged child in hospital.

More research is needed to test the descriptive model of hospital-related fears and coping strategies of 4-6-year-old children. Also tools and clinical guidelines for identifying children's hospital-related fears are needed, and means of teaching the children to find new coping strategies.

This study may also have some social impacts. If the children's fears in hospital are identified and the children are supported in coping with the fear, they may need less medication for pain and sedation, heal faster, and return home sooner (Justus et al. 2006, Walworth 2005). This may cut down daily bed charges and other costs of the hospital care. The support of the children in hospital will also decrease the stress and anxiety of children and their families at the time of hospitalization, and is likely to influence their well-being after hospitalization (Coyne 2006).

In this study, the voice of the children was heard when they talked about their experiences of fear and coping related to hospitals or other health care services. What is essential is that 4-6-year-old children are both capable of discussing and willing to discuss their experiences and describe their perceptions with reliability when they are given the opportunity and the encouragement to do so. However, much more work is required to ensure that the children are given the opportunity to be an active partner in their own care and to participate in decisions about their everyday life.

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References

Aaltonen M., Ojanen T., Siven T., Vihunen R. & Vilen M. Lapsen aika. WSOY. Porvoo. 2000.

Act 1973/36 Act of the child's day nursery 1973/36. http://www.finlex.fi/fi/laki/ajantasa/1973/19730036 Accessed 18.08.2009.Act 785/1992.

Act on the Status and Rights of Patients. Http://www.finlex.fi/en/laki/kaannokset/ Accessed 12.1.2010

Act 1221/2004. Act on the Ombudsman for Children. http://www.lapsiasia.fi/en/overv/statutes/act_of_government Accessed 8.1.2010

Act 72/2006. Youth Act. http://www.minedu.fi/export/sites/default/OPM/Nuoriso/nuorisopolitiikka/liitteet/HE_nuorisolaki_eng. Accessed 12.1.2010

ACT 488/1999 Act on the medical research. http://www.finlex.fi/fi/laki Accessed 12.1.2010

Act 417/2007. Child Welfare Act. http://www.finlex.fi/fi/laki Accessed 12.1.2010

Aderson P. *Research by children.* International Journal of Social Research Methodology. 2001; 4: 139-153.

Alderson P. Ethics. In Fraser S., Lewis V., Ding S., Kellett M. & Robinson C. (Ed.) *Doing Research with Children and Young People.* Sage Publications Ltd, London. 2004; 97-112.

Aley KE. Developmental approach to pediatric transplantation. *Progress inTransplantation.* 2002; 2:86-91.

Alsop-Shields L., John Bowlby & James Robertson: Theorists, scientists and crusaders for improvements in the care of children in hospital. *Journal of Advanced Nursing.* 2001; *35*: 50-58.

Anderzen-Carlsson A., Kihlgren M., Skeppner G. & Sörlie V. How Physicians and nurses handle fear in children with cancer. *International Pediatric Nursing.* 2007; 22: 71-80.

Annels M. Evaluating phenomenology: usefulness, quality and philosophical foundations. *Nurse researcher*. 1999; 6: 5-19.

Armfield JM., Spencer A. & Stewart J. Dental fear in Australia: who's afraid of the dentist? *Australian Dental Journal*. 2006; 51: 78-85.

Barker J. & Weller S. "Is it Fun?" Developing Children Centred Research Methods. *International Journal of Sociology and Social Policy.* 2003; 23: 33-57.

Battrick C. & Glasper EA. The views of children and their families on being in hospital. *British Journal of Nursing*. 2004; 13: 328-336.

Baumeister R.F., Campbell J.D., Krueger J.I. & Vohs K.D. Does High Self-esteem Cause Better Performance, Interpersonal Success, Happiness, or Healthier Lifestyles? *Psychological Science in the Public Interes.* 2003; *4:* 1-44.

Beidler SM. & Dickey SB. Children's Competence to Participate in Healthcare Decisions. *JONA's Healthcare Law, Ethics, and Regulation*. 2001; 3: 80-87.

Beva J., Johnston Haig J., Tousignant G., Lucy S., Kirnon V., Assimes I. & Carranz R. Preoperative parental anxiety predicts behavioural and emotional responses to induction of anaesthesia in children. *Canadian Journal of Anaesthesia.* 1990; 37: 177-182.

Birbeck & Drummond Research with Young Children: Contemplating Methods and Ethics. *Journal of Educational Enquiry*. 2007; 7: 21-31.

Björk M., Nordström B. & Hallström I. Needs of young children with cancer during their initial hospitalization: an observational study. *Journal of Pediatric Oncology Nursing*. 2006; 23: 210-9.

Boeden V. & Smith Greenberg C. Children and their famielies. The continuum of care. Wolters Kluver, Lippincott Williams & Wilkins, Philadelphia. (2nd ed.) 2010.

Borger N., Leeuws E. & Hox J. Children as respondents in survey research: Cognitive development and response quality. 2000 http://igitur-archive.libary.uu.nl/fss2007-1108-200527/UUindex.html Accessed 10.12.2009.

Bourgeois P. & Clark B. Fanklin sairaalassa. 2000. Helsinki, Tammi.

Bowmer N. Therapeutic play and the impact on anxiety in hospitalized children. *Kentucky Nurse.* 2002; 50: 1-15.

Brewer S., Glenditsch S., Syblik C., Tietjens M. &Vacik H. Pediatric anxiety: Child life intervention in day surgery. *Journal of Pediatric Nursing.* 2006; 21: 13-22.

Bricher G. Children and qualitative research methods: A review of literature related to interview and interpretive processes. *Nursing Research.* 1999; 6: 65-77.

Broome ME. & Richards D. Involving Children in Research. *Journal of Child and Family Nursing.* 1998; 1: 3-7.

Burnard P. Teaching the analysis of textual data: an experiental approach. *Nurse Education Today*. 1996; 16: 278–281.

Burns N. & Grove S. *The practice of nursing research: Conduct, critique, and utilization* Philadelphia: W.B. Saunders. (4th ed.). 2001.

Burns N. & Grove S. *The practice of nursing research: Conduct, critique, and utilization* Philadelphia: W.B. Saunders. (5th ed.). 2005.

Burns N. & Grove S. *Understanding nursing research.* Saunders, Philadelphia. (3rd. ed.) 2003; 374, 378-391.

Caprilli S., Anastasi F., Grotto RP., Abeti MS. & Messeri A. Interactive music as a treatment for pain and stress in children during venipuncture: a randomized prospective study. *Journal of Developmental & BehavioralPediatri.* 2007; 28: 399-403.

Carney T., Bishop E., Kerr C., McClure J., Murphy S., Parker J., Scott F., Shields C. & Wilson L. Children's views of hospitalization: An exploratory study of data collection. *Journal of Child Health Care*. 2003; 7: 27-40.

Catanzaro M. Using qualitative analytical technigues. Teoksessa Woods N. - Catanzaro M. (eds.) *Nursing Research:* Theorv and Practice. C.V. Mosby Company. 1998; 437-456.

Caty S., Ellerton M. & Ritchie J. Use of a projective technique to assess young children`s appraisal and coping responses to a venipuncture. *Journal of Society of Pediatric Nurses*. 1997; 2: 83-92.

Chiang L-C., Tzeng L-F., Fu L-S. & Huang J-L. Testing a questionnaire to measure asthma-related quality of life among children. *Journal of Nursing Scholarship*. 2006; 38: 383−386.

Cohen M.Z. & Knafl K.A. Evaluating qualitative research. In P. Munhall & C. Boyd (Eds.), *Nursing research. A qualitative perspective* New York: National League for Nursing. (2nd ed.) 1993; 476-92.

Colaizzi PF. Psychological research as the phenomenologist views it. In: R. S.Valle & M. King (Eds.), *Existential phenomenological alternatives for psychology*. Oxford University Press. New York. 1978; 48–71.

Council of Europe. European Convention on the Exercise of Children's Rights. Strasbourg 25. I. European Treaty Series/160, Strasbourg. 1996.

Council of Europe. Convention for the Protection of Human Rights and Diginity of the Human Being with Regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine. Oviedo 4. IV. European Treaty, Strasbourg. 1997.

Coyne I. Consultation with children in hospital: Children, parents´ and nurses´ perspectives. *Journal of Clinical Nursin*. 2006; 15: 61-71.

Coyne I. Researching children: Some methodological and ethical considerations. *Journal of Clinical Nursing*. 1998; 7: 409-416.

Crotty M. *Phenomenology and Nursing research*. Churchill Livingstone. Australia. 1996; 12-19.

Cullone E. The development of normal fear: A century of research. *Clinical Psychology Review*. 2000; 20: 429.

Curtis K, Liabo K, Roberts H. & Barker M. Consulted but not heard: a qualitative study of young people's views of their local health service. *Health Expectations.* 2004; 7: 149-156.

Darlington Y. & Scott D. *Qualitative research in practice.* Stories from the field. Open University Press, Philadelphia. 2002.

Deering C. & Cody D. Communicating with children and adolescents. *American Journal of Nursing*. 2002; 102: 34-41.

DeLoach W. Procedural-support music therapy in the healthcare setting: a cost-effectiveness analysis. *Journal of Pediatric Nursing.* 2005; 20: 276-84.

Docherty S. & Sandelowski M. Focus on qualitative methods: Interviewing children. *Research in Nursing & Healt.* 19992; 2: 177 – 185.

Doverborg E. & Pramlin S. *Att förstå barns tankar. Metodik för barnintervjuer* Stockholm, Sweden, Liber AB. (3rd ed.) 2000.

Dowling J. Humor: A coping strategy for pediatric patients. Pediatric Nursing. *AORN Journal***.** 2002; 28: 123-131.

Dreger V. & Tremback T. Management of preoperative anxiety in children. 2006; 84: 778-90.

Dreissnack M. Draw-and-tell conversations with children about fear. *Qualitative Health Research*. 2006; 16: 1414-36.

Eder D. & Fingerson L. Interviewing children and adolescents. In J. Gubrium & J. Holstein (Eds.), *Handbook of interviewing research: Context & method*. Thousand Oaks, CA: Sage Publications. 2002; 181.

Edwinson Mansson M. & Dykes A-K. *Practices for preparing children for clinical examinations and procedures in Swedish pediatric wards. Pediatric Nursing.* 2004; 30: 182 – 187, 229.
Elo S. & Kyngäs H. The qualitative content analysis process. *Journal of Advanced Nursing.* 2008; 62: 107-115.
Etene. Oikeudenmukaisuus ja ihmisarvo suomalaisessa terveydenhuollossa. Sosiaali ja terveysministeriön selvityksiä. 2001a. ISSN 1236-2115; 2001;1 ISBN 952-00- 0913-2.
Etene. Terveydenhuollon yhteinen arvopohja, yhteiset tavoitteet ja periaatteet. ETENE - julkaisuja. 2001b. ISSN 1458-6193;1 ISBN 952-00-1076-9.
Etene. Eettisyyttä terveydenhuoltoon. Valtakunnallinen terveydenhuollon eettinen neuvottelukunta 1998–2002. ETENE-julkaisuja. 2003. ISSN 1458-6193;5 ISBN 952-00-1257-5.
Etene. Tutkimuksen eettinen arviointi Suomessa – Etisk invärdering av forskning i Finland. 2002. ISBN 952-442-966-7.
Etene. Valtakunnallisen terveydenhuollon eettisen neuvottelukunnan asettaman työryhmän Näkökulmia lääketieteellisistä tutkimuksista lapsilla. 2010. Loppuraportti w*ww.etene.org/dokumentit/Lapsetfin131003.pdf* Accessed 12.1.2010.
Faux S.A, Walsh M. & Datric J. Intensive interviewing with children and adolescents. *Western Journal of Nursing Research*. 1988; 10: 180-194.
Favara-Scacco C, Smirne G, Schiliro G. & Di Cataldo A. Art therapy as support for children with leukemia during painful procedures. *Medical & Pediatric Oncology.* 2001; 36: 474-80.
Flinkman T. & Salanterä S. The fears of a preschool child at day surgery. (Finnish, English abstrkt) *Hoitotiede.* 2004; 16: 121-131.
Finlay L. Debating Phenomenological Research methods. *Phenomenology & Practice.* 2009; 3: 6-25.
Foley J. The effects of hospitalisation on children. *Nursing Review*. 2000; 18: 4-5.
Freeman L., Mokros H. & Poznanski E. Violent events reported by normal urban school-aced children: Characteristics and depression correlates. *Pediatrics.* 1994; 94: 531.
Fukuchi I., Morato M., Rodrigues R., Moretti G., Simone J. & Fukuchi M. Pre and postoperative psychological profile of children submitted to the adenoidectomy and/or tonsillectomy. (english abstrkt) *Revista Brasiliera de Otorrinolaringologia*. 2005; 71: 521.
Gagnon J., Bouchard F., Landry M. & Belles-Isles M. Implementing a hospital-based animal therapy program for children with cancer: a descriptive study. *Canadian Oncology Nursing Journal.* 2004; 14: 217-22.
Gazall G. & Mackie I. Distress related to dental extraction for children under general anaesthesia and their parents. *European Journal of Paediatric Dentistry*. 2007; 8: 7-12.
Gozal D., Drengren B., Levin P., Kadari A. & Gozal Y. A Pediatric Sedation/Anesthesia Program With Dedicated Care by Anesthesiologists and Nurses for Procedures outside the Operating Room. *Journal of Pediatrics.* 2004; 145: 47-52.
Graneheim U. & Lundman B. Qualitative content analysis in nursing research: concepts, procedures, and measures to achieve trustworthiness. *Nurse education today.* 2004; 24: 105-112.
Gritti A., Di Sarno A., Comito M., De Vincenzo A., Ce Paola P. & Vajro P. Psychological impact of liver transplantation on children's inner worlds. *Pediatric Transplantation.* 2001; 5: 37-43.
Haiat H., Bar-Mor G. & Shochat M. The World of the Child: A World of Play Even in the Hospital. *Journal of Pediatric Nursing.* 2003; 18: 209-214.
Hale E., Trehame G. & Kitas J. Qualitative methodologies 1: asking research questins with reflexive insight. *Musculoskeletal Care*. 2007; 5: 139-147.
Hallet M. Understanding the phenomenological approach to research. *Nursing researcher.*1995; 3: 55-65.
Hallström I. & Elander G. Decision-making during hospitalization: parents' and children's involvement. *Journal of Clinical Nursing.* 2004; 13: 367-375.
Hawkins NE. Bravery training: an approach to desensitizing young children to fears encountered in the hospital setting. *Archives of Physical Medicine and Rehabilitation.* 1991; 72: 697-700.
HE. Hallituksen esitys Eduskunnalle lääketieteellisestä tutkimuksesta annetun lain ja potilaan asemasta ja oikeuksista annetun lain muuttamisesta. 2009.
Heikkilä T. *Tilastollinen tutkimus.* Edita, Helsinki. 2008.
Higginbottom G. Sampling issues in qualitative research. *Nurse Researcher.* 2004; 12: 7-19.
Hirsjärvi S. & Hurme H. *Teemahaastattelu.* 3. painos. Kyriiri Oy, Helsinki. 1988.
Hoar P. & Mann H. Self-esteem and behavioral adjustment in children with epilepsy and with diabetes. *Journal of Psychosomatic research.* 1994; 38: 859-869.
Hsieh H. & Shannon S. Three approaches to qualitative content analysis. *Qualitative Health Research.* 2005; 15: 1277-1288
Hus H. Reducing fear in perschool children during clinical examinations. *Journal of nursing*. 2004; 51:

52-7.
Hussler E. *Fenomenologian idea.* Viisi luentoa.Translated: Himanka J, Hämäläinen J, Sivenius H. Paino Like Oy, Helsinki. 1995.
Hussler E. *General introduction to pure phenomenology.* Trans. W.R. Boyce Gibson. Collier Books, New York. 1962.
Hussler E. *Phenomenologins ide´. Daidalos, Götebord.* 1989.
Huttunen M. Ahdistuneisuus ja pelko-oireet. Lääkärikirja Duodecim. 2005. http://www.terveyskirjasto.fi Accessed10.9.2007.
Irwin LG. & Johnson J. Interviewing young children: explicating our practices and dilemmas. *Qualitative Health Research.* 2005; 15: 821-31.
Ivanoff P., Laijärvi H. & Åstedt-Kurki P. Pre-school childrens´experience of hospital fear. (Finnish, english abstract) *Hoitotiede.* 1999; 11: 272-281.
Jan MM. Neurological examination of difficult and poorly cooperative children. *Journal of Child Neurology.* 2007; 22: 1209-13.
Janhonen S. & Nikkonen M. (toim.) *Laadulliset tutkimukset hoitotieteessä.* WSOY, Juva. 2003; 7-20.
Jost K. Nursing standards for child development. *The American Journal of Maternal/Child Nursing.* 1996; 21*:* 67-71.
Justus R., Wyles D., Wilson J., Rode D., Walther V. & Lim-Sulit N. Preparing children and families for surgery: Mount Sinai's multidisciplinary perspective. P*ediatric Nurs.* 2006; 32: 35-43.
Kain Z., Mayes L., O´Connor T. & Cicchetti, D. Peroperative anxiety in children: Predictors and outcomes. *Archives of Pediatric and Adolescent Medicine.* 1996; 150: 1238-1245.
Karlin M., Stenlund H. & Hagglof B. Child behaviour after anaesthesia: associated risk factors. *Acta Paediatrica.* 2007; 96: 740-747.
Kettwich S., Sibbitt W., Brandt J., Johnson C., Wong C. & Bankhurst A. Needle phobia and stress-reducing medical devices in pediatric and adult chemoterapy patients. *Journal of Pediatric Oncology Nursing.* 2007; 24: 20-8.
Kim H. *The nature of theoretical thinking in nursing*. New York: Springer Publishing Company. 2000.
Kim H. & Kollak I. *Nursing theories: Conceptual and philosophical foundations.* New York: Springer Publishing Company. 1999.
Kleiman S. Phenomenology: to wonder and search for meanings. *Nurse Reseacher.* 2004; 11: 7-19.
Kirmanen, T. *Lapsi ja pelko.* Sosiaalipsykologinen tutkimus 5-6-vuotiaiden lasten peloista ja pelon hallinnasta. Väitöskirja.: Kuopion yliopisto, Sosiaalitieteiden laitos, Kuopio. 2000.
Koch T. Intepretative approaches in nursing: the influence of Hussler and Heidegger. *Journal of Advanced Nursing.* 2008; 21: 827-836.
Koening K., Chesla C. & Kennedy C. Parents' perspectives of asthma crisis hospital management in infants and toddlers: An interpretive view through the lens of attachment theory. *Journal of Pediatric Nursing.* 2003; 18: 233-242.
Kopec J & Sayre E Traumatic experiences in childhood and the risk of arthritis: a prospective cohort study. *Canadian Journal of Public Health*. 2004; 95: 361-5.
Kortesluoma R.-L., Hentinen M. & Nikkonen M. Conducting a qualitative child interview: methodological considerations. *Journal of Advanced Nursing.* 2003; 42: 434-441.
Krippendorff K. *Content analysis An Introduction to Its Methodology*. Sage Publications. 1985.
Kristensson-Hallström I., Elander G. & Malmfors G. Increased parental participation in a paediatric surgical day-care unit. *Journal of Clinical Nursing*. 1997; 6: 297-302.
Lahikainen A., Kraav I., Kirmanen T. & Taimalu M. Child-parent agreement in the assessment of young children's fears: A comparative perspective. *Journal of Cross-Cultural Psychology.* 2006; 37: 100.
LaMontagne L., Johnson J., Hepworth J. & Johnson B. Attention, coping and activity in children undergoinig ortopaedic surgery. *Research in nursing & health.* 1997; 20: 487-494.
Latvala E. & Vanhanen-Nuutinen L. Laadullisen hoitotieteellisen tutkimuksen perusprosessi: sisällönanalyysi. In: Janhonen S. & Nikkonen M. *Laadulliset tutkimukset hoitotieteessä*. WSOY, Juva. 2003; 21-43.
Lazarus R S. & Folkman S. *Stress, Appraisal, and Coping.* New York: Springer Publishing Company. 1984.
Lehtomaa M. Fenomenologinen kokemuksen tutkimus: Haastattelu, analyysi ja ymmärtäminen. Teoksessa: Perttula, J. & Latomaa, T. (toim.) *Kokemuksen tutkimus. Merkitys – tulkinta – ymmärtäminen.* 2. painos. Dialogia Oy, Helsinki. 2006; 163-193.
LeRoy S., Elixson M., O´Brien P., Tong E., Turpin S. & Uzark K. Recommendations for preparing children and adolescents for invasive cardiac procedures. *Circulation, American Heart Association Scientific Statement*. 2003; 108: 2550-2564.

Lincoln YS. & Guba EG. *Naturalistic inquiry.* Sage Publications Inc, California. 1985.
Lindberg S. & von Post I. The perioperative dialogue from the perspective of children with special needs. *Vord I Norden. Nursing Science and Research in the Nordic Countries.* 2005; 25: 48-52.
Lindberg S. & von Post I. From fear to confidence: children with a fear of general anaesthesia and the perioperative dialogue for dental treatment. *Journal of Advanced Perioperative Care*. 2006; 2: 143- 51.
Lindberg S, von Post I. The perioperative dialogue from the perspective of children with special needs. *Vord I Norden. Nursing Science and Research in the Nordic Countries.* 2005; 25: 48-52.
Lindeke L., Nakai M. & Johnson L. Capturing Children's Voices for Quality Improvement. *American Journal of Maternal Child Nursing.* 2006; 31: 290-295.
Loranger N. Play intervention strategies for the Hispanic toddler with separation anxiety. *Pediatric Nursing*. 1992;18: 571-5.
Lukkarinen H. Teoksessa: Janhonen Sirpa, Nikkonen Merja (toim.) *Laadulliset tutkimusmenetelmät hoitotieteessä*. WSOY. Juva. 2003; 116-164.
Mac Naughton G., Rolfe S. & Siraj-Blatchford I. *Doing Early Childhood Research* International perspectives on theory and practice. Allen & Unwin. Crows Nest, N.S.W. 2001.
Maes S, Leventhal H. & de Ridder DTD. Coping with Chronic Diseases. In: Zeidner M, Endler NS. (ed.) *Handbook of Coping. Theory, Research, Applications.* John Wiley & Sons, New York. 1996; 221- 251.
Mahajan L., Wyllie R., Steffen R., Kay M., Kitaoka G., & Dettorre J. The effects of a psychological preparation program on anxiety in children and adolescents undergoing gastrointestinal endoscopy. *Journal of Pediatric Gastroenterology & Nutrition*. 1998*;* 27: 161-165.
Majstrovic M. & Veerkamp, J. Relationship between Needle Phobia and Dental Anxiety. *Journal of Dentistry for Children.* 2004; 71: 201-5.
Majstrovic M. & Veerkamp J. Developmental changes in dental anxiety in a normative population of Dutch children. *European Journal of Paediatric Dentistry*. 2005; 6: 30-34.
Margolin G., & Gordis E. B. The effects of family and community violence on children. *Annual Review of Psychology.* 2000; 51: 445-479.
McConnochie K., Roghmann K., Kitzman H., Liptak G. & McBride J. Ensuring High-Quality Alternatives While Ending Pediatric Inpatient Care as We Know it. *ARCH Pediatric Adolesc Med.* 1997; 151:341-349.
McCann M. & Kain M. Pediatric anesthesia: The Management of Preoperative Anxiety in Children: An Update. *Anesthesia & Analgesia.* 2001; 93: 98-105.
McGrath P& Huff N. 'What is it?': findings on preschoolers' responses to play with medical equipment. *Child: Care, Health & Development.* 2001; 27: 451-62.
Medical-dictionary. http://medical-dictionary.thefreedictionary.com/ Accessed 12.1.2010
Miles M. & Huberman A. *Qualitative data analysis.* 2nd edition. Sage Publications, Thousand Oaks. 1994.
Miller S. Analysis of phenomenological data generated with children as participants. *Nurse researcher*. 2003; 10: 68-82.
Milles S. Researching children: issues arising from a phenomenological study with children who have diabetes mellitus. *Journal of Advanced Nursing.* 2000; 31: 1228-1234.
Morgan D. Qualitative Content Analysis: A Guide to Paths Not Taken. *Qualitative Health Research.* 1993; 1: 112-121.
Morse J. & Richards L. *Read me first for a user´s guide to qualitative methods.* New Delhi: Sage Publications. 2002.
Morse JM. & Field PA. *Qualitative Research Methods for Health Professionals.* Sage, London. 1995.
Mossman B. Using walkie talkies to overcome the fear of separation in children having surgery. *Head & Neck Nursing.* 2004; 22: 21-2.
Munhall P. *Ethical considerations in qualitative research.* In P. Munhall, & C. Boyd, *Nursing research. A qualitative perspective.* New York: National League for Nursing. 1999; 395–408.
Muris P., De Jong P.J. & Engelen S. Relationships between neuroticism, attentional control, and anxiety disorders symptoms in non-clinical children. *Personality and Individual Differences.* 2004; 37: 789-797.
Murray JS. Conducting Psychosocial Research With Children and Adolescents: A Developmental Perspective. *Applied Nursing Research.* 2000; 13: 151- 156.
Nakai Y., Hirakawa T., Milgrom P., Coolidge T., Heiman M., Mori Y., Ishihara C., Yakushiji N., Yoshida T. & Shimono T. The Children´s Fear Survey Schedule-Dental Subscale in Japan. *Community Denistry & Oral Epidemiology.* 2005; 33: 196-204.

Neill SJ. Research with children: a critical review of the guidelines. *Journal of Child Health Care*. 2005; 9: 46-58.

Nicastro E. & Whetsell M. Children´s fears. *Journal of Pediatric Nursing,* 1999; 14: 392-401.

Nordfeldt S. & Ludvigson J. Fear and other disturbances of severe hypoglycaemia in children and adolescents with type 1 diabetes mellitus. *Journal of Pediatric Endocrinology*. 2005; 18: 83-91.

Norman SE. & Parker JDA. Multidimensional Assessment of Coping: A Critical Evaluation. *J Pers Soc Psychol*. 1990; 58: 844-854.

Nurmi J.-E., Ahonen T., Lyytinen H., Lyytinen P., Pulkkinen L. & Ruoppila I. *Ihmisen psykologinen kehitys*. WSOY, Helsinki. 2006.

Paley J. Hussler, phenomenology and nursing. *Journal of Advanced Nursing.* 2008; 26: 187-193.

Patton M.Q. *Qualitative evaluation and research methods*. 2nd. ed. Newbury Park. CA: Sage Publications. 1990; 234, 343-349,462.

Patton M. *Qualitative research & evaluation methods.* 3rd ed. Sage Publications. California. 2002.

Pelander T. & Leino-Kilpi H. Quality of pediatric nursing care: Children´s expectations. *Issues in Comprehensive Pediatric Nursing*. 2004; 27: 139-51.

Pelander T., Nuutila L., Salanterä S. & Leino-Kilpi H. Children as informants: A review of Finnish academic theses in nursing science. (Finnish, English abstract) *Hoitotiede*. 2006; 18: 162-174.

Pelander T. *The quality of pediatric nursing care: Children´s perspective.* University of Turku, Annaels Universitatis Turkuensis D 829, Pallosalama Oy, Turku. 2008.

Peretz B. & Gluck G. Magic trick: a behavioral strategy for the management of strong-willed children. *Int J Paediatr Den.t* 2005; 15: 429-36.

Perttula J. Kokemus ja kokemuksen tutkimus: Fenomenologisen erityistieteen tieteenteoria. Teoksessa: Perttula, J. & Latomaa, T. (toim.) *Kokemuksen tutkimus. Merkitys – tulkinta – ymmärtäminen.* 2. painos. Dialogia Oy, Helsinki. 2006; 115-158.

Pinto JP. & Barbosa VL. Maternal-infant bonding and the mother's participation during venipuncture: a psychoanalytic perspective. *Revista Latino-Americana de Enfermagem.* 2007; 15: 150-5.

Polit D., Beck, C. & Hungler, B. (2004) *Essentials of nursing research: Methods, appraisal, and utilization* (5th ed.).

Polit D. & Beck C. *Nursing research: generating and assessing evidence for nursing practice* Philadelphia: Lippincott. 2007; 519.

Priest H. An approach to the phenomenological analysis of data. *Nurse researcher.* 2002; 10: 50-63.

Proczkowska-Björklund M. Child related background factors affecting compliance with induction of anaesthesia. *Paediatric anaesthesia.* 2004; 14: 225-235.

Przybylo H. & Stevenson G. Mask fear in children presenting for anesthesia: aversion, phobia or both? *Paediatric Anaesthesia.* 2005; 15: 366-70.

Rajantie J. & Perheentupa J. Lasten terveys. Teoksessa Aromaa A, Huttunen J, Koskinen S. & Teperi J. (toim.) *Suomalaisten terveys*. Kustannus Oy Duodecim. Kansanterveyslaitos ja Stakes. Saarijärven Offset Oy, Saarijärvi. 2005; 298 – 326.

Rees G, Gledhill J, Garralda ME. & Nadel S. Psychiatric outcome following paediatric intensive care unit (PICU) admission: a cohort study. *Intensive Care Medicine.* 2004; 30: 1607-14.

Rennick J., Johnston C., Dougherty G., Platt R. & Ritchie J. Children´s psychological response after critical illness and exposure to invasive technology. *Journal of Developmental & Behavioral Pediatrics.* 2002; 23: 133-44.

Roberts P, Priest H. & Traynor M. Reliability and validity in research. *Nursing standards.* 2006; 20: 41-45.

Robinson JR, Rankin JL. & Drotar D. Quality of attachment as a predictor of maternal visitation to young hospitalized children. *Journal of Pediatric Psychology.* 1996; 21: 401-17.

Rolfe G. Validity, trustworthiness and rigour: quality ant the idea of qualitative research. *Journal of Advanced Nursing.* 2006; 53: 304-310.

Romino S., Keatley V., Secrest, J. & Good K. Home study program. Parental presence during anesthesia induction in children. *AORN Journal*. 2005; 81: 780-792.

Rossen B. & McKeever P. The behavior of preschoolers during and after brief surgical hospitalizations. *Issues in Comprehensive Pediatric Nursing.* 1996; 19: 121-33.

Runeson I., Hallström I., Elander G. & Hermerén G. Children's needs during hospitalization: An observational study of hospitalized boys. International *Journal of Nursing Practice.* 2002; 8: 158- 166.

Salanterä S. *Caring for children in pain – Nursing knowledge, activities and outcomes.* Annales Universitatis Turkuensis, Sarja D 345, Painosalama Oy, Turku. 1999.
Sandala M. Phenomenology as a method to investigate the experience lived: a perspective from Hussler and Merlau Poty's thouhjt. *Journal of Advanced Nursing*. 2002; 37: 282-293.
Sandelowski M. Sample size in qualitative research. *Research in nursing.*1995; 18: 179-183.
Sanders C. Application of Colaizzi's method: Interpretation of an auditable decision trail by a novice researcher. *Contemporary Nurse.* 2003; 14: 292-302.
Santroc J. *Child development.* 11th edition. McGraw-Hill, Boston. 2007.
Scott J. Children as Respondents – Challenges for Quantitave Methods. In Christensen P. & James A. (Ed.) *Research with Children. Perspectives and Practices.* Taylor & Francis e-Library, London. 2001; 98- 119.
Shipton H. Playing doctors and nurses take the fear out of hospital. *Nursing Times.* 1995; 95: 48-9.
Schmidt C., Bernaix L., Koski A., Weese J., Ciappetta M. & Sandrik K. Hospitalized Children's Perceptions of Nurses and Nurse Behaviours. *Journal of Maternal Child Nursing.* 2007; 32: 336-342.
Sieben-Hein D. & Steinmiller E. Working with complex care patients. *Journal of Pediatric Nursing.* 2005; 20: 389-395.
Snyder B. Preventing treatment interference: Nurses´ and parents´ intervention strategies. *Pediatric Nursing*. 2004; 30: 31-40.
Sorenson H. & Roth G. A Case for Nitrous Oxid-Oxygen Inhalation Sedation: An Aid in the Elimination of the Child´s Fear of The "Needle". *Dental Clinics of North America.* 1973; 17: 51-54.
Smith L. & Callery P. Children's accounts of their information needs. *Women and children.* 2004; 1: 230.
Spradley J. *The ethnographic interview.* New York: Harcourt Brace Jovanvich College Publisher. 1979.
Staimler S. An overview of content analysis. *Practical assessment, research & evaluation.* 2001; 7: 1531.
Stakes Somaattinen erikoissairaanhoito 2006. STAKES / tilastotieto. 2008. Retrieved 12.1.2010 from http://www.stakes.fi/FI/tilastot/aiheittain/Terveyspalvelut/htm
Standley J.M. & Hanser S.B. Music therapy research and applications in pediatric oncology treatment**.** *Journal of Pediatric Oncology Nursing.* 1995; 12: 3-8.
STM Children have the right to participate. Annual Report 2008 of the Ombudsman for Children. Sosiaali- ja terveysministeriön julkaisuja 2008:20. Helsinki.
Styles M., & Arizpe E. "A gorilla with grandpa´s eyes:" How children interpret visual texts. A case study of Anthony Browne´s "Zoo." *Children's Literature in Education.* 2001; 32: 261-281.
Tilastokeskus Väestörakenne. 2009. http://www.stat.fi/til/ vaerak/2007/vaerak_2007_2008-03-28_tie_001_ fi.html
Tuomi J. & Sarajärvi A. *Laadullinen tutkimus ja sisällönanalyysi.* Tammi, Livonita Print, Latvia. 2009.
Tutkimuseettinen neuvottelukunta. Hyvä tieteellinen käytäntö ja sen loukkaukset. 2002. http://www.tenk.fi/HTK/htkfi. Accessed 12.1.2010
Tutkimuseettinen neuvottelukunta. Eettinen ennakkoarviointi ihmistieteissä. 2009. http://www.tenk.fi/ennakkoarviointi/eettisetperiaatteet Accessed 12.1.2010
United Nations. Decree on Enforcement of the Convention on the Rights of the Child 1130/1991, Council of Europe 1996, 1997, United Nations 1989. Convention on the Rights of the Child. http://www.unicef.fi/ files/unicef/pdf/Lasten_oik_sopimus.pdf Urden LD. Accessed 12.1.2010
Vagnoli L, Caprill A. & Messeri S. Clown doctors as a treatment for preoperative anxiety in children: A randomized, prospective study. *Pediatrics.* 2005; 116: 563-567.
Vivar C, McQueen A, Whyte D. & Armayor N. Geeting started with qualitative research: developing a research proposal. *Nurse Reseacher.* 2007; 14: 60-75.
Walker W. Ethical considerations in phenomenological research. *Nurse Researcher*. Ethnographic Research. 2007; 14: 36-45.
Walworth D. Procedural-support music therapy in the healthcare setting: A cost-effectiveness analysis. *Journal of Pediatric Nursing.* 2005; 20: 276-284.
Webb C. Information point: Colaizzi´s framework for analysing qualitative data. *Journal of Clinical Nursing*. 1999; 8: 576.
Wennström L, Hallgerg R-M. Bergh I. Use of perioperative dialogue with children undergoing day surgery. *Journal of Advanced Nursing.* 2008; 62: 96-106.

Wennström L. & Bergh I. Bodily and verbal expressions of postoperative symptoms in 3- to 6- year-old boys. *Journal of Pediatric Nursing.* 2008; 23: 65-76.

Wikström Britt-Maj. Communicating via Expressive Arts: The Natural Medium of Self-Expression for Hospitalized Children. Pediatric Nursing. 2005; 31: 480-485.

Wilson M, Megel M. Enenbach L. & Carlson L. The voices of children: Stories about hospitalization. Journal of pediatric health care. 2009; 1: 40.

Windich-Biermeier A, Sjoberg I, Dale JC, Eshelman D. & Guzzetta CE. Effects of distraction on pain, fear, and distress during venous port access and venipuncture in children and adolescents with cancer. *Journal of Pediatric Oncology Nursing.* 2007; 24: 8-19.

Wollin SR., Plummer JL., Owen H., Hawkins R. MF., Materazzo F. & Morrison V. Anxiety in Children Having Elective Surgery. *Journal of Pediatric Nursing. 2*004; 19: 128-132.

Wolman B. *Lapsen pelot*. Otava, Keuruu. 1979.

Wong D. & Hockenberry-Eaton M. *Wong´s essentials of Pediatric Nursing.* Mosby. United States of America. 2001.

Young, K. Pediatric procedural pain. *Annals of Emergency Medicine.* 2005; *45:* 160-171.

Zelikovsky N., Rodrigue J., Gidycz C. & Davis M. Cognitive behavioral and behavioral interventions help young children cope during a voiding cystourethrogram. *Journal of Pediatric Psychology.* 2000; 25: 536-543.

Ziegler DB. & Prior MM. Preparation for surgery and adjustment to hospitalization.*Nursing Clinics of North America.* 1994; 29: 655-69.

Zoppi K. & Epstein R. Interviewing in medical settings. In J. Gubrium, & J. Holstein (Eds.), *Handbook of interviewing research: Context & method.* Thousand Oaks, CA: Sage Publications. 2002; 355.

Appendix 1. Training curriculum of the interviewers

Helsingin ammattikorkeakoulu
Marja Salmela

Haastattelijoiden koulutus

Edeltävät suoritukset

- Tutkimustyön perusteet 3 op
- Tutkimustyön menetelmät 3 op
- Lapsen, nuoren ja perheen hoitotyö 3 op
- Ohjaus hoitotyössä 3 op

Aihevaihe

Opinnäytetyöprosessi, työn ohjaus ja arviointi

Opinnäytetyön tarkoitus ja kysymykset joihin haetaan vastausta

Opinnäytetyön aineiston keruu

- Kertaus teemahaastattelusta
- Haastattelun aloitus, eteneminen ja lopetus
- Opinnäytetyön haastatteluteemat ja täydentävät kysymykset
- Kuvien käyttö haastattelussa
- Lapsen haastattelutilanne
- Haastattelun toteuttaminen: haastattelupaikan ja ajan valinta, nauhoitus

- Aineiston keruun luotettavuus

- Lapsi tutkimuskohteena
  - Yhteistyö leikki-ikäisen lapsen ja hänen vanhempiensa / huoltajan kanssa, lapsen luottamuksen saavuttaminen
  - Kommunikointi leikki-ikäisen lapsen kanssa

- Tutkimusetiikka
  - Tutkimusluvat
  - Lapsen ja vanhempien oikeudet

Suunnitelmavaihe

Opinnäytetyön raportin sisältö

Opinnäytetyön aineiston analyysi: kertaus aineisto- ja teorialähtöiseen sisällönanalyysiin

Tutkimusetiikka

- Tietoinen suostumus lapsiin kohdistuvissa tutkimuksissa
- Infokirjeet, lupapyynnöt
- Lapsen kohtaaminen haastattelutilanteessa

Aineiston analysoinnin luotettavuus

Appendix 2. Contact letter to parents

SAATEKIRJE LAPSEN VANHEMMILLE

KULTTUURI LAPSEN PELON JA KIVUN LIEVITTÄJÄNÄ
Lasten kivun ja pelon hoitotyön tutkimus- ja kehittämishanke
HUS Lasten ja nuorten sairaalan, Helsingin ammattikorkeakoulun ja Turun yliopiston hoitotieteen laitoksen yhteistyöprojekti

Hyvät vanhemmat

Helsingin ammattikorkeakoulu Stadia, HUS Lasten ja nuorten sairaala sekä Turun yliopiston Hoitotieteen laitos ovat käynnistäneet yhteisen tutkimus- ja kehittämishankkeen Kulttuuri lapsen pelon ja kivun lievittäjänä. Hankkeen tarkoituksena on taiteen, tieteen ja koulutuksen keinoin kehittää hoitotyötä 2 – 6 -vuotiaiden lasten kivun ja pelon lievittämiseksi sairaalassa. Hanke on viisivuotinen ja sen aikana kootaan tietoa leikki-ikäisten lasten sairaalapeloista ja kivun kokemuksista sairaalassa. Kootun tiedon perusteella kehitetään ja testataan erilaisia leikkiin ja mielikuvituksen käyttöön perustuvia pelon- ja kivunlievitysmenetelmiä lasten ja heidän perheittensä tueksi.

Kehittämishankkeen aineisto kootaan haastattelemalla leikki-ikäisiä lapsia Lasten ja nuorten sairaalassa / päiväkodissa. Haastattelun tarkoituksena on koota tietoa ja kuvata lasten omia ajatuksia ja mahdollisia pelkoja sairaalassa ja heidän käyttämiään selviytymiskeinoja pelottavissa tilanteissa.

Lapsen haastattelu toteutetaan teemahaastatteluna, leikinomaisia menetelmiä käyttäen lapsen hoitopäivän lomassa. Haastatteluun osallistuminen on täysin vapaaehtoista. Teillä on oikeus kieltäytyä haastattelusta tai keskeyttää se halutessanne. Haastattelusta kieltäytyminen ei vaikuta millään lailla lapsen saamaan hoitoon.

Lapsia haastattelevat Helsingin ammattikorkeakoulun hoitotyön opiskelijat opinnäytetöinään. Haastatteluille on saatu myönteinen lausunto sairaalan eettiseltä toimikunnalta ja tutkimuslupa sairaalan johdolta. Lisätietoja hankkeesta ja lasten haastattelusta antavat mielellään hankkeen opinnäytetöitä koordinoiva ja ohjaava opettaja Marja Salmela (puh 09-31081666) Helsingin ammattikorkeakoulusta sekä opinnäytetöiden tekijät, sairaanhoidon opiskelijat _____ (puh.)

Helsingissä _____/_____2006

_____	_____
Harry Lindahl	Inger Mäenpää
Lastenkirurgian vastaava ylilääkäri	Lastenkirurgian ylihoitaja

Appendix 3. Informed consent for the parents

SUOSTUMUSKIRJE HAASTATTELUA VARTEN LAPSEN VANHEMMILLE

Hyvät vanhemmat

Opiskelemme sairaanhoitajiksi Helsingin ammattikorkeakoulu Stadiassa. Opiskeluumme kuuluu opintojen loppuvaiheessa opinnäytetyön tekeminen. Opinnäytetyömme aiheena on leikki-ikäisen lapsen sairaalaan liittyvät pelot / leikki-ikäisen lapsen selviytymiskeinot sairaalapelosta. Työmme tarkoituksena on kuvalta leikki-ikäisen lapsen sairaalaan liittyviä pelkoja / selviytymiskeinoja sairaalaan liittyvistä peloista. Työmme on osa suurempaa tutkimus- ja kehittämishanketta, johon kuuluvat Helsingin ammattikorkeakoulun lisäksi HUS-piirin Lasten ja nuorten sairaala sekä Turun yliopiston hoitotieteen laitos. Tutkimus- ja kehittämishankkeen tarkoituksena on taiteen, tieteen ja koulutuksen keinoin kehittää 2 – 6 -vuotiaan lapsen pelon ja kivun lievitystä sairaalassa. Opinnäytetyötämme ohjaa lehtori Marja Salmela Helsingin ammattikorkeakoulusta (puh. 09-31081).

Opinnäytetyömme tutkimusaineiston keräämme haastattelemalla leikki-ikäisiä lapsia Lasten ja nuorten sairaalassa / päiväkodeissa. Haastattelut toteutetaan leikinomaisia menetelmiä käyttäen lapsen hoitopäivän lomassa, ja ne nauhoitetaan kasetille. Vanhemmat / lapsen huoltaja voivat halutessaan olla mukana haastattelun aikana.
Tutkimukseen osallistuminen on täysin vapaaehtoista, ja Teillä on oikeus kieltäytyä tai keskeyttää se mikäli koette sen tarpeelliseksi. Lapselta saatuja tietoja käsitellään ehdottoman luottamuksellisesti. Hänen henkilöllisyyttään ei paljasteta missään vaiheessa. Ennen haastattelua kerromme lapselle haastattelun aiheesta ja toteutuksesta ja pyydämme lapselta suostumuksen siihen. Haastattelu keskeytetään, mikäli lapsi väsyy tai osoittaa, että ei halua jatkaa keskustelua.

Pyydämme Teiltä ystävällisesti lupaa saada haastatella lastanne. Lapsenne antamat tiedot ovat arvokkaita ja merkityksellisiä. Tutkimustulosten avulla voidaan kehittää lastenhoitotyötä ja lievittää lapsen sairaalassa kokemaa pelkoa. Lisätietoja voitte kysyä allekirjoittaneilta tai opinnäytetyömme ohjaajalta lehtori Marja Salmelalta.

Yhteistyöstä kiittäen

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Sairaanhoidon opiskelija, Helsingin ammattikorkeakoulu (nimi ja puh.)

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Annan suostumukseni lapseni tutkimukseen osallistumiseen.

Lapsen nimi ______________________________, henkilötunnus ________________

Helsingissä______/______2004

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Vanhemman/huoltajan allekirjoitus ja nimenselvennös