



ORIGINAL ARTICLE

Experiences from the use of pictorial support in child health services—the voices of 5-year-old children and their caregivers

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Abstract

According to the United Nations Convention on the Rights of the Child, children are entitled to express their own views and to be heard. The use of pictorial support in child-specific information from the child health services (CHS) may improve children's ability to participate in their own healthcare. This study aimed to explore the experiences of 5-year-old children and their caregivers regarding pictorial material used by CHS in western Sweden. Semi-structured interviews were conducted with 22 children; data from them were analysed using content analysis. Further, 26 caregivers completed a questionnaire; the resulting data was analysed using qualitative thematic analysis. The results showed that the pictorial material worked as support and increased understanding and preparedness in both groups. Further, the children's participation increased during their health visits. This indicates that pictorial support strengthens children's rights in healthcare settings, suggesting that it should be used on a permanent basis.

Keywords: visual support; child health; participation; children; United Nations Convention on the Rights of the Child; nursing

Introduction

Swedish child health services (CHS), which are organised at the regional level, reach almost all children, who come with their caregivers to see CHS nurses at local child

health centres for regular health visits during the child's first 5 years (Wettergren *et al.*, 2016). All visits are offered free of charge, and the national CHS program is offered universally to all children. The main objectives of the CHS are to promote physical, psychological, and social health to prevent and identify illness; and to detect developmental difficulties as early as possible (Tell, 2019). To ensure equal and evidence-based care, national CHS guidelines were published in 2014 by the National Board of Health and Welfare. According to these guidelines, the United Nations Convention on the Rights of the Child (CRC) provides overall guidance for how children and their caregivers are to be treated. Under the CRC, children have a right to express their opinion and to be heard (UNICEF Sverige, n.d.). Further, the health-promotion objective of the CHS cannot be attained unless children and their caregivers are given opportunities to be involved in the healthcare they receive and to influence it.

While Sweden ratified the CRC as far back as 1990, it was not incorporated into Swedish law until 2020 (UNICEF Sverige, n.d.). The rights set out in the CRC are universal, meaning that all children up to the age of 18 years are entitled to them. Under Article 12, children shall have the right to express their views freely in all matters affecting them. It is also emphasised that even young children have the right to express their views and those views do not have to be expressed verbally. Further, the CRC establishes that all children have the right to be heard. In addition, children have the right to be properly informed about different circumstances affecting them, and this information needs to be adjusted to suit the children's age and level of development so that they can understand it. This is particularly important in healthcare situations where children are often exposed to new and unknown medical procedures and assessments.

Children's right to participation during health visits is laid down not only in the CRC but also in the Swedish Patient Act, 2014, where children's right to understand information and to be involved in their own care is further strengthened (The Swedish Riksdag SFS [Swedish Code of Statutes], 2014). Participation is defined in the International Classification of Functioning as involvement in a life situation (World Health Organization [WHO], 2007). One important aspect of strengthening children's ability to be involved in different situations is to make it easier for all children to understand and communicate in healthcare situations. Another important aspect of participation concerns children's need to be prepared for what will happen during medical procedures and healthcare visits. Bray *et al.* (2022) emphasise the importance of preparing and informing children properly prior to a planned healthcare visit, pointing out that there is a high risk that children feel anxiety or fear about unknown future situations. One way to reduce children's fear and anxiety prior to healthcare visits is to prepare and inform them properly about what is going to happen and the procedures to be involved (Carney *et al.*, 2003).

Including two-dimensional line-drawings, graphic symbols, or pictures in information is one way to help children (and their caregivers) understand more about what is going to happen during medical procedures or health visits. In addition, pictorial support can also function as augmentative and alternative communication (AAC) (Beukelman and Mirenda, 2013). As such, it can be used by the children themselves to help them express their views, choices, and feelings regarding different aspects of healthcare. Young children have varying levels of maturity in terms of

verbal abilities, and pictures can often help them to express themselves better. This can be particularly true for children with a communication disorder (Beukelman and Mirenda, 2013). Additionally, many children in Sweden have a language other than Swedish as their native language and may have had limited exposure to Swedish if they have not yet attended preschool. Thus, there may be several language barriers to deal with for both children and their caregivers, and those barriers may be particularly important in difficult situations, such as during hospital visits or health visits. For this reason, the use of pictorial support may be a way to handle situations where verbal communication alone may fail (Thunberg *et al.*, 2022).

While the use of pictorial support is fairly common in paediatric healthcare in Sweden, so far very few studies have explored the children's and their caregivers' views and experiences regarding the actual pictorial support used (Bratt and Nilsson, 2020). Specifically, there is a lack of research within the CHS, whose interventions differ somewhat from those provided at hospitals, including that their main aim is to promote health, not cure illness. The existing research has focused mainly on children with special needs and/or on children's and caregivers' views on support used at hospitals or in dental care (Thunberg *et al.*, 2022) and have shown improved communicative ability and participation (Gunnerek and Gustafsson, 2016). Additionally, it has been shown that the use of pictorial support in connection with healthcare visits at hospitals could decrease feelings of anxiety (Schönberg and Lindblad, 2019).

To fill that void, the primary aim of this study was to explore and describe the experiences and thoughts of 5-year-old children regarding the pictorial support used prior to and during the health visit taking place at that age within the CHS of the Västra Götaland region in west Sweden. A secondary aim was to explore and describe the caregivers' experiences of using that pictorial support. Additionally, we aimed at studying how the children used and related the pictorial material to the health visit.

METHOD

Design

To achieve a deeper understanding of the children's experiences from their use of the supportive pictorial material from the CHS, a qualitative approach was employed. Data concerning the children's experiences was elicited through interviews and analysed by means of content analysis (Graneheim and Lundman, 2004). To capture the caregivers' experiences, they were asked to complete a questionnaire, which was analysed using thematic analysis (Braun and Clarke, 2006).

Sample and setting

Participants were recruited from four child health centres within the Västra Götaland region of Sweden. All centres were located in urban areas characterised by social diversity in the sense of considerable variation in terms of income, employment, level of education, etc. Consecutive sampling was used: families that received an invitation from one of those centres to attend the health visit arranged when a child is 5 years old were informed about the study and invited to participate in it.

All families were given written information about the study, and most of them were contacted over the telephone by their CHS nurse before the health visit. The inclusion criteria for families were that they have received pictorial support prior to the health visit, and for children to be able to understand and speak Swedish.

In total, 43 families were asked to participate, and 28 of them ended up being included in the study. Ten families canceled their appointment, and five other families chose not to participate. Of the 28 participating children, six had to be excluded, since their caregivers did not send in the written consent form. Further, although having consented to inclusion in the study, two of the 28 caregivers declined to complete the questionnaire. In total, 22 children were interviewed and 26 caregivers completed the questionnaire.

Materials

Within the CHS of the Västra Götaland region, pictorial support can be included in the invitation to the health visit for 5-year olds sent by mail to all children's homes (Appendix 1). This health visit is the final visit to the CHS and includes a health check-up and one vaccination shot. Nurses sending out invitations are not required to use pictorial support but may do so if they wish, in which case the material is freely available. The 12 pictures included in the present case come from a free web resource called KomHIT, which was developed for use in healthcare (for a description, see Thunberg *et al.*, 2022). The pictures illustrate different procedures during the health visit, and they come with a short text describing how to use the pictures.

Data collection

To capture the children's thoughts and experiences, a semi-structured interview guide (see Appendix 2) was developed. The wording of the questions was adapted to the children's level through the use of appropriate syntactic complexity and sentence length (Kvale and Brinkmann, 2014). During the interviews, the guide was supplemented with a stimulus material inspired by the Talking Mats method (Murphy, 2010) to help the children give more comprehensive answers and support the children's understanding of the interview questions. The stimulus material consisted of (1) the pictures that had been sent to their homes prior to the health visit; (2) three pictures of drawn faces representing emotions on a scale; and (3) four pictures for a 'warm-up exercise'.

To capture the caregivers' experiences, a questionnaire with eight questions was used: one yes/no question and seven open-ended questions (see Appendix 3). The pictorial material was included in the questionnaire as a memory support.

The interviews took place in a separate room after each child's health visit at the respective child health centre. Two of the authors (EK or JA) interviewed all the children individually with one caregiver present. The interviews were audio-recorded and lasted for 8–19 min. No personal data was collected, and the interviews were anonymised during transcription. While a child was being interviewed, his or her

caregiver was given the questionnaire to complete. The written responses from the caregivers varied from a couple of sentences per question to half a page.

Data analysis

Data from interviews

The interviewers made verbatim transcriptions of the interview data collected. The subsequent analysis was performed step by step, using content analysis with an inductive approach (Graneheim and Lundman, 2004) and the NVivo software. Concretely, the transcriptions were read for several times to identify meaning units linked to the stated aim of the study. The meaning units identified were condensed into shorter sentences or single words. The next step of the analysis was to code all meaning units (see Table 1). The codes were then sorted into categories based on similarities and differences (Graneheim and Lundman, 2004). During this step, the authors strove to find categories that were exhaustive and mutually exclusive; to strengthen credibility, all authors were involved in the analysis (Malterud, 2001). This was achieved through continuous reflection and discussions regarding the codes and during the analytic process of finding categories.

Data from caregiver questionnaires

The caregivers' responses to the questionnaires were analysed by means of a thematic analysis with an inductive approach (Braun and Clarke, 2006): (1) Reading the questionnaires several times to familiarise oneself with the data; (2) codes were generated close in meaning to the text; (3) the codes generated larger meaning units and patterns, such as themes with a common core; (4) and (5) all identified themes were checked against the codes and extracts, and further refined, to find categories that were exhaustive and mutually exclusive; and (6) the final analysis included written presentation (see Table 2).

Table 1. Examples from the analytic process: content analysis—from quote to category

Example quote	Code	Subcategory	Category
'Seeing a doctor [...] Because seeing a nurse makes you a little happy and stuff'.	Will be happy to see a nurse.	Positive associations and lack of demands.	Supports the expression of feelings and thoughts about the health visit.
'I'd rather not wait [...] because you can wait for so long that it kills you'.	Does not want to wait.	Pain or discomfort.	

Table 2. Examples from the analytic process: thematic analysis—from quote to theme

Example quote	Code	Sub-theme	Theme
'The pictorial support was good, it felt like she got a good understanding of what was going to happen'.	Gave the child a pre-understanding of the course of events.	Promotes preparedness and understanding.	Improving participation for children and caregivers.
'Good, because it helps the parent explain to their child'.	Pictorial material helps caregivers explain to their children.	Supports both caregivers and children.	

Ethical considerations

The present study sought to collect information about the children's and their caregivers' views on the pictorial support used by the CHS. No sensitive data was collected either from the children or from their caregivers. Hence, no ethical approval was required under the Swedish law.

The ethical principles laid down in the WMA Declaration of Helsinki were followed, and the study received the consent of the head of each child health centre. Where a child had more than one caregiver, the written informed consent of all caregivers was required. Additionally, the children and the caregivers were informed that participation was voluntary and that they could withdraw from the study at any time. Confidentiality was guaranteed and it was emphasised that no participant would be identifiable.

Results

Children's voices

Two main categories emerged from the content analysis. The pictorial material (1) *provides information and supports the understanding of the health visit* and (2) *supports the expression of feelings and thoughts about the health visit*; these categories could be broken down into five subcategories (see Figure 1).

Category 1. Provides information and supports the understanding of the health visit

The children described how they had seen the pictorial support before the health visit, and they recognised it when they saw it during the interview. They described how the pictures showed them what they were to do or what was going to happen during the health visit. Most of the children related the pictures to themselves, but a few of them did not relate the pictures either to themselves, to their environment, or to the health visit.

Subcategory 1(a): A feeling of preparedness. The children described how they had been given a sheet of paper, a picture, or a card at home where they could see what was going to happen and what they were expected to do during the health visit. A frequent answer from the children was that they knew that they were to receive an injection, since that was obvious from the pictorial support. One child described being afraid and therefore experienced a need to look at the pictures, but then feeling



Figure 1. The content analysis resulted in two main categories and five subcategories.

prepared for the health visit. The children stressed that it was good to prepare and to gain knowledge about what was going to happen during the visit.

P¹: Good. [...] Ehm, so that you know what you're doing.

I: So you think it helped to know what you were going to do when you were watching those pictures?

P: Yes. It's good to know.

I: [...] Why can it be good to know what you're going to do?

P: Because, because then you can be, p-prepare for it. [...] To be ready.

Subcategory 1(b): Recognition and familiarization. A large proportion of the children were able to relate the pictures to themselves and to their environment. They recognised themselves in the pictures. In addition, they acknowledged the presence of their parents, their siblings, and the CHS nurse in the pictures. The children noticed a connection between the pictures and the health visits in terms of content and location, and they recognized the health-visit procedures in the pictorial support.

P: 'Make a jab. On me. Exactly like that. [...] And then I took a band-aid.'

Category 2. Supports the expression of feelings and thoughts about the health visit

The pictures aroused different feelings and thoughts that were related to the health visit. The children were able to express both negative and positive feelings and thoughts with the help of pictorial support.

Subcategory 2(a): Positive associations and lack of demands. The children described most of the pictures in positive terms. Using the pictures, they noted that several procedures were fun or made them happy, such as measuring one's height, undressing, or receiving an injection or a band-aid, or that the nurse was funny. Some children gave more specific explanations for their feelings, for example, they wanted to come to the child health centre to play and do fun things in the waiting room. Another child mentioned that it was good to have the injection in order to prevent sickness and that the nurse watched out for the children so that they stayed healthy. One child wanted to stay for another injection, since their teddy bear wanted an injection as well: 'I wanted to be there [with the nurse] a lot. [...] Make a jab on Bruno [the cuddly toy] many times!'

With the help of pictures, the children talked about comfort and simplicity in terms of feeling at ease with undergoing different procedures during the health visit. Measuring one's weight was easy and simple, and it was good for you to measure your height, as all you had to do was to stand.

¹ The interviews and questionnaire answers have been translated from Swedish into English by the authors. In interview extracts, 'P' stands for 'participant' and 'I' for 'interviewer'.

Subcategory 2(b): *Insecurity or anxiety.* Several children described feelings of anxiety, concern, fear, shyness, or embarrassment in relation to the pictures. The feelings of concern and nervousness were associated with pictures. One child did not like to look at the picture of a syringe because receiving an injection is painful. Another child explained that they did not enjoy waiting for the health visit to begin and therefore did not like the feeling of having the visit ahead of them. Some children expressed fear—fear of the doctor (but not of the nurse) and fear of the band aid. Further, shyness about being at the child health centre and meeting the nurse was described. In relation to the picture that depicts a child that undresses, many children mentioned a feeling of embarrassment about undressing to have their weight measured during the visit. They explained this by saying that they did not want to be laughed at or to be seen in a state of undress or showing their underwear or their belly: ‘Because I sort of had to take off my clothes and lots of things. [...] That was a bit tough. Embarrassing’.

Subcategory 2(c): *Pain or discomfort.* Many children expressed feeling pain or discomfort in relation to some depicted procedures of the health visit. The picture of the syringe created the most negative feelings, even though there were divergent opinions as to whether the injection hurt or not: ‘Because, ehm, when you have a jab it hurts a bit. [...] Getting the jab hurt a bit but I didn’t w, I didn’t cr, I didn’t weep’.

Several pictures created more or less strong feelings or thoughts in the children. With the support of the pictures, they were able to express dissatisfaction with some procedures of the health visit. Some children described how they thought talking and/or waiting was boring and how they did not appreciate that.

Caregivers’ perspectives

The thematic analysis yielded three main themes and six sub-themes (Figure 2). The main themes were as follows: (1) *The pictures are an appreciated tool*, (2) *the pictures encourage conversations about the health visit between child and caregiver*, and (3) *improving participation for children and caregivers*.

Theme 1: The pictures are an appreciated tool

Sub-theme 1(a): *A positive attitude to the pictures: natural to most, but unfamiliar to some.* The caregivers described positive attitudes to the use of pictures as support by the child health centre. Some expressed hope that this would become mandatory in connection with health visits and used everywhere at the centre. In addition, some caregivers said that the pictorial support should continue to be used, and some believed that using it was already a standard procedure. A few caregivers thought the pictures would work better as support for children younger than 5 years and/or with a special need. By contrast, other caregivers agreed that the pictorial support was useful for helping children with special needs but took a positive view of sending it to all children: ‘Should always be done. I didn’t even react to the fact that it was done—it felt natural. I thought this was something that was always done.’ ‘I think this would be an even better idea for lower ages, or in case of difficulties comprehending/communicating. I felt unaccustomed to it’.

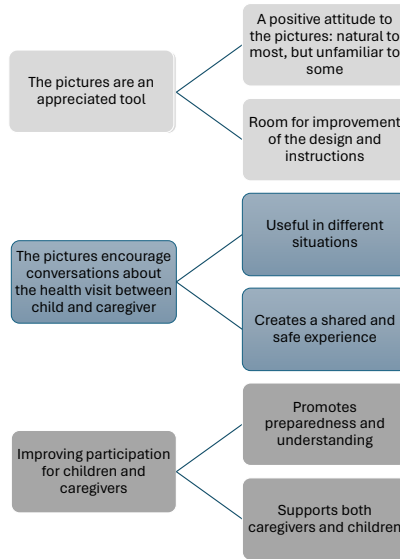


Figure 2. Themes and sub-themes that were yielded from the thematic analysis.

All caregivers described the pictures in positive terms, characterising them as appropriate, clear, and pedagogical. Other characterizations made included that the pictures were nice and neutral, and that they represented the content of the visit. The pictures were said to be easy to understand at the children’s level. There were also cases where children were described as not being interested in the pictures.

Sub-theme 1(b): *Room for improvement of the design and instructions.* The caregivers made suggestions for how to develop the material further, mostly regarding the instructions on how to use the pictures. Clearer and expanded instructions to the families were called for: ‘Very positive thing to send out pictorial support ahead of health visits to the child health centre, so long as there are clear instructions on how to use the pictorial support’. Additionally, some caregivers expressed thoughts about the number of pictures included, noting that some pictures were less useful (e.g., picture of the building of child health centre). Some caregivers said that the material would be more useful if it was made available in digital form or if it was designed as a short sequence of cartoons or as an animated film. There were also some negative thoughts about how showing the children the picture of a syringe might cause anxiety as well as worries about what might happen if the procedures did not happen in the same order during the health visit as in the pictures, which could be difficult for some children.

Theme 2: The pictures encourage conversations about the health visit between child and caregiver

Sub-theme 2(a): *Useful in different situations.* The caregivers described how they had used the pictures together with their child before the health visit, when they received the invitation. Most of them had used the pictures at home, and some had

also used it at the child health centre in connection with the health visit. Some of the caregivers said that they had used the pictures for several times at both home and centre, but most had used them only once.

The caregivers described how they had used the pictures to explain the health visit to their children. Some had let their child retell what they had talked about and describe the meaning of the pictures. The caregivers had used the pictures in different ways, such as showing the pictures once or using them to tell a story:

The day before, we looked at the pictures and talked about what they meant. Then F used the pictures to tell her father what she was going to do the next day. We looked at them together, and then F got to say what she thought and how she felt about the various pictures.

Sub-theme 2(b): *Creates a shared and safe experience.* The caregivers expressed that using pictorial support was a positive experience: it felt safe and nice to have the pictures to support their conversation with their child about the health visit. This created a shared moment together with the child. It was fun and nice to talk about the health visit with the pictures as a support—it felt like a common challenge that they would manage together. Having a shared focus on the pictures helped them manage their children's minor nervousness using laughter: 'Helped her deal with the situation, fun to talk about something new, and how we will "get through it" together. Funny/scary, she knew things could hurt. Because the syringe was scary.'

Theme 3: Improving participation for children and caregivers

Sub-theme 3(a): *Promotes preparedness and understanding.* The pictorial support was characterised as useful for preparing a child prior to a health visit. It was easy to use and explained well what was going to happen during the visit. Caregivers also noted that the pictures encouraged the children to ask more questions about the visit, improved their comprehension, and helped them visualise what was going to happen later on at the child health centre.

Some caregivers discussed the issue of preparedness in relation to the child's feelings about the visit. According to some caregivers, their child thought that the syringe was a bit scary even though they had prepared using the pictures. Others said that the pictures had helped their child to prepare for the vaccination. Preparedness was discussed in terms of comfort and discomfort. It was noted that abstract meetings can give a discomforting feeling while preparedness can create a comforting feeling: 'They are prepared and know what will happen. [...] It becomes something they can understand, not an abstract meeting that creates insecurity. A prepared child is a secure child.'

Sub-theme 3(b): *Supports both caregivers and children.* Besides supporting the children, the pictures also helped caregivers. They expressed that the pictorial support was a good tool to use when talking about the future as well as during the visit. In addition, it could help them handle feelings that emerged during or in connection with the visit.

Some caregivers discussed how the pictures were important for children's opportunities to participate more actively. Additionally, they expressed that, with the support of the pictures, the children would be able to 'own' their visit and gain a better understanding of what it means to participate. It was noted that the pictures could give all children the same opportunities to understand and prepare for the visit, and that they could also help children express themselves better. Compared with spoken words, pictorial material was characterised as more accessible to the children on their own terms and was more permanent, and it was pointed out that pictures enhanced children's ability to choose *when* to talk about the visit:

It [the pictorial support] includes the child in the information and gives all children the same opportunities to understand and to know in advance what will happen to them. (Spoken) language is not accessible to all, particularly not "adult" words.

Discussion

The aim of the present study was to gain insight into 5-year-old children's and their caregivers' experiences and thoughts about the pictorial support used by the Swedish CHS in connection with the health visit organised at that age.

The analysis of data from interviews with children yielded the following two main categories: (1) the pictorial support provides information and gives an understanding about the procedures included in the health visit, and (2) the pictorial support helps children express their feelings and thoughts about the health visit. The analysis of data from questionnaires completed by caregivers yielded three main themes, suggesting that the caregivers' experiences and perceptions were well in line with those of their children.

Several previous studies have described the importance of preparing children prior to medical interventions and stressed that children are entitled to receive information about medical procedures in advance. For example, Bray *et al.* (2022) highlighted the need for children and their caregivers to receive more information about planned medical procedures, but concluded that their participants commonly lacked such information. This finding was opposite to the one made in the present study, where most caregivers said that they felt well informed and that the pictorial material they had received prior to their children's health visit had contributed satisfactory and appropriate information. In fact, the data included in the subcategory 1(a), *a feeling of preparedness*, showed that the pictorial support had promoted the children's knowledge and understanding of the procedures included in the health visit and that the information provided had contributed to a feeling of being prepared prior to the visit. Several children expressed being aware that they would receive a vaccine injection. Additionally, one child described an increased need to look at the pictures, as they were afraid of needles. Looking a lot at the pictures made that child feel more at ease. This result was in line with previous studies showing that information and pictorial support for children could reduce their feelings of anxiety and stress (Vantaa Benjaminsson and Nilsson, 2017).

According to the CRC, children must have the opportunity to express their opinions, and their voices must be heard in matters concerning them. The data in the

subcategory 1(b), *recognition and familiarization*, showed that the pictorial support used seems to be age-appropriate and to have been created with the child's perspective or focus in mind. In fact, many children related the pictures to themselves and to the people and places around them. They also described relationships between the pictures and various specific medical or health procedures that took place during the health visit. This confirmed that the pictorial support used by the CHS was appropriate and suitable for 5-year-old children. The use of such support during health visits can promote children's right to be heard and express their opinions in healthcare settings, in line with the Article 12 of the CRC. Further, it was clear from all three subcategories of the main category 2, *supports the expression of feelings and thoughts about the health visit*, that the pictures helped the children voice their opinions and ideas. The children described positive and negative feelings, opinions, and thoughts about the health visit in general and about specific procedures, and when doing so they related to and made use of pictorial support. Hence, the inclusion of pictorial support when children are invited to a health visit appears to improve children's opportunities to express their feelings and thoughts. This simple measure enables child-health professionals to bolster every child's right to be heard. In addition, this measure improves the work that all healthcare professionals are obliged to perform by virtue of the CRC and under the Swedish Patient Act, which lays down that all healthcare patients have a right to participate in their care on their own terms. Involving children in a planned healthcare, preparing them for it, and giving them information about it are all important prerequisites for them to achieve increased participation in healthcare (Lambert *et al.*, 2008). In the present study, caregivers also emphasized this aspect by highlighting that the pictorial support made the children more included in health visits and increased all children's participation on more equal terms.

Being able to relate pictures to themselves might not be quite as important in order for children to understand what would happen to them during the health, medical, or hospital visit. In fact, adults close to the children must ensure that they are verbally informed and prepared in a manner that is appropriate, given their age, verbal skills, and cognitive level. However, it turned out that a large proportion of children in the present study did relate the procedures depicted in the pictorial support to themselves, and some expressed that the pictures helped them to feel prepared for the procedures during the health visit. In this context, it should be noted that the inclusion of pictorial support alongside verbal information from an adult could help ensure that the information given to the child is largely broken down into simple pieces in a way that may enhance the child's comprehension. It is also important to highlight children's right to receive information at their own level. Because many of the children did relate the pictures to themselves and to the health visit as such, and because they did use the pictures to express different feelings, we believe that the use of simple pictorial support in communication with children increases the likelihood that children are informed at their own level.

There is no doubt whatsoever that the caregivers included in the present study appreciated and took a positive view of the use of pictorial support by the CHS. However, some parents considered that the pictorial support used was mainly suitable for children with special needs. Including more written yet simple information

addressed to caregivers in the pictorial support could perhaps increase the likelihood that hesitant caregivers would use the pictures ahead of the health visit. Similar ideas were in fact expressed by the caregivers themselves to further develop the pictorial support.

The pictorial support used in the present study originated from a free and open online database (Bildstöd, n.d.). The Bildstöd database includes both color pictures and black and white pictures, and there are pictures at different levels of abstraction. There are no photographs, only drawings. The choice of pictures to be used in the information for children visiting the child health centres was made by a nurse (AJ) and a speech–language pathologist (AKL), both with many years of experience working closely with children. During the project period, other healthcare professionals not involved in the project, both in the same region and elsewhere in Sweden, asked questions and made comments about the design of the pictures used. Specifically, they expressed concern that the pictures chosen were too abstract, too boring, even too ugly for the present-day children to relate to. However, the results of the present study showed that many 5-year-old children had no difficulty using these pictures to express their views and that they related those pictures to important matters, including themselves and the situation around them. In line with the children's views, many caregivers expressed that the pictures were clear, related to the health-visit procedures, and were easy for their children to understand and relate to. We believe that the choice of pictures to be used must be made from a child's perspective, not from an adult's perspective. In many ways, adults do not really know how children feel nor what children think or believe. A child-friendly approach held by adults is important to differentiate from the child's own perspective (Åhl *et al.*, 2020). No child participating in the present study expressed any views—negative or positive—about the design of the pictures. We also believe that many different types of drawings could be used just as well as pictures of the type included here. The most important thing is to actually include pictures in furnishing information to children. Doing so increase the opportunities for children to receive information at their own level and to express their views (Bratt and Nilsson, 2020).

The pictorial support encouraged parent–child conversations about the health visit both prior to and during it. Some caregivers described how the pictures helped them make their child feel safe and cope with the feelings of nervousness prior to the visit. This was in line with what previous studies have highlighted: it is of great importance to prepare children prior to medical procedures (Bray *et al.*, 2022), as properly informing children prior to procedures could reduce feelings of fear and anxiety (Carney *et al.*, 2003). Since many caregivers said that they used the pictures even during health visits, it could be a good idea for the CHS to ensure that the pictorial support could be found in the waiting room. This may increase chances for all children to access more information about what is going to happen during the imminent visit.

Further, in line with the children's views in the present study, the analysis showed that caregivers expressed that the pictures encouraged their children to ask questions about the health visit and that the pictures supported the caregivers in handling their children's emerging feelings both during and after the visit. If health professionals or caregivers use the pictorial support during the health visit and let the children bring

the pictures home with them after the visit, then we believe that this could help some children to process emotions and feelings that may emerge during and after the visit.

One strength of the present study is that it is one of the very few studies to have explored young children's own voices within the context of child health. However, some of its limitations also need to be pointed out. The children in the present study were recruited from child health centres in the areas of varied socioeconomic status, but we had no data regarding the specific socioeconomic status or educational level of each family included. Additionally, all children had Swedish as their native and strongest language; we were not able to include any child who needed an interpreter during their health visit. There is a risk that the sample of families included in the study is somewhat skewed because of this. Further, 43 families were asked to participate and only five declined to do so. This seems to be a high study-participation rate, but there might be a risk that the caregivers who agreed to participate had previous acquaintance with, and positive views on, the use of pictorial support to a greater extent than those who declined, which could have introduced some bias.

All child interviews were performed in the presence of an accompanying caregiver. That the children's caregivers were present during the interviews may have made the children feel more secure and confident during the interviews, which may have positively affected the amount of information elicited from them. If this was the case, it strengthened the present study by increasing the likelihood that the children would produce more comprehensive answers and hence a rich material to be analysed.

The caregivers described their thoughts in a questionnaire that they completed while their children were interviewed. That the caregivers were not given the opportunity to respond in a more private and relaxed manner could have affected their written expressions about the pictorial support. Further, although the questionnaire did not include any questions intended to elicit personal information about the caregiver, the child, or the family, caregivers may have felt non-anonymous in the situation, which may have affected their responses.

Two methods of data analysis were used in the present study. This was motivated by the fact that the data material differed in terms of richness and character (interviews versus written responses), and we acknowledge that the collected data might not have called for a choice of two different methods. In future research, if similar data were to be collected, we most likely would choose to use content analysis only.

To address methodological considerations regarding data collection and analysis, aspects of trustworthiness were considered and used (Guba and Lincoln, 1994). Trustworthiness in terms of credibility was ensured by the use of similar interview and survey procedures and an interview guide as well as recurrent discussions among the authors at the analytic stage to ensure transparency and reflectiveness in the analysis (Polit and Beck, 2016). Dependability was strengthened by the use of a question guide for all children to ensure that the aim of the study remained in focus, and the use of the same questionnaire for all caregivers. Confirmability was considered by means of the presentation of quotes from participants to illustrate connection between interview data and analyses. Finally, transferability was considered in terms of the importance of describing the participants. However, for ethical reasons, we decided to present few details about the participants and more about the interview setting (Polit and Beck, 2016). All participating child health centres were

located in urban areas characterised by social diversity in the sense of considerable variation in terms of, for example, employment and level of education.

The key healthcare professional in the CHS is the CHS nurse, who is the main healthcare provider and carries out all health visits from birth to the age of 5 years. While CHS nurses' views on and perceptions of working with pictorial support were beyond the scope of the present study, this is an important topic for future research.

To conclude, studies of young children's own experiences are uncommon, but they are essential if we are to gain a better understanding of how to implement the CRC within the CHS (Sahlberg *et al.*, 2020). The present study contributes valuable knowledge about the most vulnerable members of our society—young children. Additionally, the present study provides some perspective by reporting on caregivers' experiences and thoughts in parallel with those of the children themselves. The main finding made is that the use of pictorial support by the CHS strengthens the health-promotion efforts intended to bring about equality and fairness in the field of child health in line with the CRC. The inclusion of pictorial support in information provided to children and their caregivers is a simple yet essential method to use in order to comply with the CRC. By doing this, the CHS would improve healthcare for all children and their families in line with the Swedish national healthcare program.

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Appendix 1

The pictures that were included in the invitation to the health visit and the information text to caregivers (translated to Swedish below)

The following text was included with the pictures enclosed (above):

Central barnhälsovård

Hälsobesök på BVC 5 år - svenska



‘The pictures show examples of what you will be doing during the health visit at the child health centre. Show your child the pictures and talk to him or her before the visit. Children are different. Some children need longer to prepare than others, but it is usually enough to prepare a child a day or two before the visit or on the same day.’

The words in the pictures are ‘child health center’, ‘wait’, ‘nurse’, ‘talk’, ‘school’, ‘undress’, ‘weigh and measure’, ‘get dressed’, ‘syringe’, ‘band aid’, ‘talk’, and ‘good-bye’.

The text at the bottom of the page says that information about symbol licences can be found at <http://www.dart-gbg.org/licenser>, and that the pictorial support has been created via www.bildstod.se.

Appendix 2

The semi-structured interview guide used to capture the children's thoughts and experiences

Research question

What experiences and thoughts do 5-year-old children have regarding the supportive pictorial material attached to the written invitation to the health visit at the child health centre taking place at the age of 5 years?

Interview questions

1. What did you think you were going to do when you came here? *OK, so you thought you were going to xxx. How could you know that? Did someone help you to find out that you were going to xxx? I see. How did your mum/dad help you with that? Was there anything else you thought you were going to do?*
2. Have you seen these pictures before? *Who did you watch those pictures with? Where did you do that?*
3. How did you like watching these pictures with your mum/dad? *Why did you think it was xxx? Could you tell me some more?*
4. Is there anything that you remember from the pictures? *Could you tell me? Do you remember what your mum/dad said about the pictures? Did you say anything? What? Which picture was that? What was in that picture?*
5. Could you tell me about what you see in this picture? *Who is doing xxx? Why is it xxx? What do you think that is, if you make a guess?*

Appendix 3

The caregiver questionnaire used to capture the caregivers' experiences

1. Did you use, together with your child, the pictorial support sent out alongside the invitation to your child's health visit? Please select an answer: Yes No.
2. When and where did you use the pictorial support together with your child?
3. Please describe in what way you used the pictorial support together with your child.
4. Please describe your experience from using the pictorial support together with your child.
5. How do you think your child experienced using the pictorial support for purposes of preparation together with you as a caregiver?
6. What are your thoughts about the pictures included in the supportive pictorial material that you and your child received?
7. What is your opinion in general about pictorial support, such as this being sent out alongside an invitation to a health visit at a child health centre?
8. Do you have any other comments on the pictorial support and/or the study that you would like to share?