Management and dissemination of professional expertise: physiotherapists' perceptions of the supervision of dedicated aides working with children with cerebral palsy

Abstract

A qualitative study was undertaken to explore pediatric physiotherapists' perceptions and experiences of supervising dedicated aides responsible for the daily care of preschool children with cerebral palsy. Data were collected using individual semi-structured interviews. A theme based content analysis yielded three major themes. Supervision and therapy were provided simultaneously, giving supervision a secondary priority. The physiotherapists transitioned their professional language into a common form of language to make the aides understand. The importance of letting aides attain first-person experiences of professional skills were highlighted. Implications of the findings for supervision in pediatric physiotherapy and for future research are addressed.

Introduction

Preschool children with severe cerebral palsy (CP), need maximal to total assistance in most areas of mobility, self-care, and social activities (Østensjø, Carlberg, & Vøllestad, 2003). These children receive physiotherapy but are dependent on their families and other persons to cope in everyday life. In Norway, most of these children enroll into preschools from the age of one year to when they begin school at six years (Hannås & Hanssen, 2016; Lysklett & Berger, 2017). They have a statutory right to special assistance during the preschool day, most often provided by dedicated aides (Lysklett & Berger, 2017). Physiotherapists (PTs) employed in the municipal health care services provide physiotherapy to these children. The PTs often provide therapy in the preschool setting (Myrhaug & Østensjø, 2014). Supervision of dedicated aides for children with CP is an integrated part of current physiotherapy practice but the scientific basis for such practice is sparse.

Physiotherapy interventions to children with CP vary (Novak et al., 2013), yet the main aim is to enhance gross motor skills and mobility and to facilitate the child's environment (Campbell, Palisano, & Orlin, 2012; Larsson, Miller, Liljedahl, & Gard, 2012).

Research show that intensive training involving measures repeated from at least three times a week to daily have positive effect on motor development in these children (Størvold, Jahnsen, Evensen, Romild, & Bratberg, 2018; Sørsdahl, 2010). Nevertheless, physiotherapy to children with CP usually occurs only one to two times a week (Palisano et al., 2012; Størvold et al., 2018). Therefore, the PTs supervise the dedicated aides to ensure that appropriate activities are performed effectively and safely when the PTs are not present, thus facilitating maintenance or improvement of the child's development. In Norway, most often the aides lack formal education and prior working experience with children in general (Lysklett & Berger, 2017).

Norwegian public health reports (Health-Care-Services, 2008, 2015) state that professionals should guide dedicated aides and other care providers to children with disabilities in how to facilitate development. Even though it is common for children with CP to have dedicated aides and that the health authorities recommend that the aides receive guidance by PTs, we do not know much about how PTs supervise, what the effects are and not least, how PTs experience and reflect on their responsibilities, possibilities and challenges. Given the widely use of supervision worldwide and the major emphasize on evidence-based practice in physiotherapy, the lack of scientific knowledge about supervision of dedicated aides is problematic.

Supervision in health care is described as a process that involves a supervisor reviewing a supervisee's professional development and ongoing work with patients, usually following therapeutic situations (Davys & Beddoe, 2010). A supervisory relationship is regarded as essential for the supervisee to gain professional expertise and new insight (Davys & Beddoe, 2010). Such insight is primarily acquired through talking about knowledge and reflective thinking and is described as a cognitive process influenced by emotions and context (Davys & Beddoe, 2010; Milne, Aylott, Fitzpatrick, & Ellis, 2008). In that respect, the

literature shows that supervision often occurs as discussions between the supervisor and the supervisee (Davys & Beddoe, 2010; Frith, Cowan, & Delany, 2015; Hall & Cox, 2009; Iversen, Øien, & Råheim, 2008; Lähteenmäki, 2005; Mann, Gordon, & MacLeod, 2009; Middleton & Kitchen, 2008; Sellars, 2004) and that aspects of therapy and supervision often coincide (Davys & Beddoe, 2010). Although supervision is interpreted slightly differently in different contexts, the reflections on competences and ethics is central (Davys & Beddoe, 2010).

Physiotherapy is a practice performed in clinical encounters that are social in nature, and in which professional knowledge evolves through interactions. Generally, intentions are expressed in action and are neither pre-given nor static but generated, transformed and perceptible to others in the process of interacting (Fuchs & De Jaegher, 2009). The agents involved may understand each other, what they intend, and what their actions and utterances mean via coordination of movements during interactions. Such dynamical and embodied processes makes the agents actively participate in the generation of meaning, also termed participatory sense-making (Di Paolo, Rohde, & De Jaegher, 2010). As aspects of supervision in clinical encounters often coincide with therapy, supervision must entail embedded processes of interactional achieved sense-making. Perceptions, (inter-)actions, emotions, the physical, and social environment are all vital aspects in the generation of meaning (Fuchs & De Jaegher, 2009). In physiotherapy, the focus is on the patient's moving body and how to improve functional movements through adequate therapeutic techniques (Nicholls & Gibson, 2010; Øberg, Blanchard, & Obstfelder, 2014). This clinical complexity goes beyond what the supervision literature describes (Davys & Beddoe, 2010; Kilmister & Jolly, 2000; Sellars, 2004), and may further challenge supervision processes in physiotherapy practice. New and extended insights about PTs` experiences with supervision of dedicated aides will provide a better understanding and a better foundation for supervision as clinical practice in

physiotherapy. The purpose of this study was to explore how PTs experience to supervise dedicated aides of preschool children with CP.

Methods

Study design

The study has a qualitative explorative design. Qualitative research interviews were conducted within a phenomenological-hermeneutical framework (Malterud, 2012). While phenomenology allow us to capture social phenomena from the subjects' perspectives (Malterud, 2012), the hermeneutic process allows us to transcend the subjects' words, interpretations, and perspectives using systematic analysis (Malterud, 2012; Malterud, Siersma, & Guassora, 2016). We chose individual semi-structured interviews based on Brinkman and Kvale (2015) to conduct in-depth explorations of the PTs perceptions and experiences during the supervision of dedicated aides.

This study is part of a larger project in which we explored different aspects of PTs' supervision practices, such as the actual performance of PT supervision and how aides perceive and apply the knowledge (derived from the supervision sessions) in their daily work with the child.

Context

We conducted the study in a primary health care setting represented by seven municipalities across the northern and southern parts of Norway. In Norway, the health-care system is semi-decentralized; that is, the responsibility for specialist care lies with the state, while the municipalities are responsible for the delivery of primary health care services, including rehabilitation and physiotherapy (van den Noord, Hagen, & Iversen, 1998). In summary, there are approximately 440 municipalities spread across 19 counties (Ringard, Sagan, Saunes, & Lindahl, 2013). The organization of the physiotherapy service in the municipalities is two-fold: municipal employment and/or self-employment (private actors).

The latter is fully embedded in the public system through contracts with the municipalities (Ringard et al., 2013). Moreover, the work force ranges from recent graduate PTs to PTs with extensive work experience (Øberg, 2008). PTs commonly take courses related to the patient groups they serve in clinical practice. Some PTs work in specialized fields, such as pediatrics, while other PTs work with patients from the entire age range (0-100 years). A central premise of the Norwegian health care system is universal access to all services. However, priorities of patient groups occur. Generally, physiotherapy service prioritizes vulnerable groups, such as children (0-18 years of age) with disabilities (Ringard et al., 2013).

The municipal PTs are practitioners that families have direct access to for assessments and interventions related to enhancing motor development and preventing functional impairments and disabilities. A common feature among practitioners is that PTs treat children in their homes, preschools, and schools, which are often viewed as the natural environments of children and thus considered appropriate for their learning (Ahl, Johansson, Granat, & Carlberg, 2005; Øberg, 2008).

In Norway, the prevalence of CP is 2.4 per 1000 live births, and approximately 7-9 % of the population with CP is classified as Gross Motor Function classification Scale (GMFCS) level III and IV (Andersen et al., 2017). GMFCS is a five level classification system used to differentiate children with CP according to abilities as sitting, walking, and wheeled mobility (Rosenbaum et al., 2007). Children on GMFCS level I can walk without restrictions while children on GMFCS level V are very limited in their ability to move themselves around (Rosenbaum et al., 2007). Treatment goals in general focus on social integration with typical peers and activity in addition to the treatment of different impairments, such as those affecting postural control, range of joint movement, body perception, pain, respiration, fitness, and muscle strength, length, and tonus (Andersen et al., 2017).

Participants and Recruitment

Consistent with our aim to conduct in-depth explorations of PTs' perceptions, and the methodological position of the study, we considered a sample size from six to ten participants sufficient to answer our research question, which is in line with Malterud et. al's (2016) description of information power in qualitative research. Using a purposive sampling approach, we sought to include participants with characteristics that were specific to our overarching study focus: PTs providing regular supervision of a dedicated aide responsible for the daily follow-up of a preschool toddler with CP classified as GMFCS level III and IV. Written informed consent was first obtained from the parents and then from the toddler's PT and dedicated aide. Initially, ten parents gave written consent, but three were excluded because the child's PT refused to participate. The recruitment period was between January and December 2014. The sample of seven PTs ranged from those who had recently completed a bachelor's program in physiotherapy to those who had undertaken postgraduate training in pediatric physiotherapy. Table 1 provides more information about the PTs.

Data Collection

The first author conducted the audio-recorded interviews. Each interview lasted 40-66 minutes and followed a theme-based interview guide with open-ended questions. The PTs were invited to elaborate upon the following main topics: Supervision related to a specific situation, supervision in general, working conditions, and background. The interview questions were developed from a mix of a review of the literature, the first author's experiences of supervising aides and a minor pilot study addressing supervision in pediatric physiotherapy (Sørvoll, 2012). As recommended by Brinkman and Kvale (2015), the interview guide was a collection of introductory, more direct, and closing themes that invited the PTs to elaborate on themes that concerned them. The first author established follow-up questions in the individual setting depending on what the conversation actualized. During the interviews, communicative validation (Brinkman & Kvale, 2015) was performed by

rephrasing the PTs' words and asking the PTs whether the rephrased interpretation was correct. Each interview was concluded with a debriefing, and then immediate impressions were captured in field notes, as recommended by Brinkman and Kvale (2015). The first author transcribed all interviews verbatim, and generated a summary of each interview transcript.

Data Analyses

The analytic process started with the planning and designing of the study, initiated and completed by the first, second and last authors. Then data analysis and interpretation proceeded concurrently with data collection. A theme-based content analysis was performed, inspired by Malterud's (2012) four stage principles, a hermeneutic process of de-contextualization and re-contextualization: (1) Initially, the transcripts were read to obtain a first impression of the content, and preliminary themes emerged from the texts based on what the PTs emphasized and reiterated. The first and last author read all the transcripts separately in this process and then discussed the preliminary themes in collaboration with the second and third authors. (2) Then, units of meaningful expressions were identified (de-contextualization), coded, and chartered into a matrix organized by code groups. (3) The statements were condensed to abstract core meanings. The first author was in charge of this work. (4) Finally, descriptions and concepts were developed by reassembling the themes and viewing them in relation to the original interview material (re-contextualization). In line with Malterud (2013, pp. 116-118), the first author generated an analytic text complemented with illustrative quotations, which was reviewed separately and in collaboration with the other authors. Three main themes emerged and formed our findings: *Supervision as an unclear practice, Supervision as oral dialogue,* and *Supervision as Bodily Interaction.*

Research Team and Reflexivity

In qualitative research, many researchers possessing different positions and perspectives may strengthen the trustworthiness of the study (Brinkman & Kvale, 2015; Malterud, 2001; Polit & Beck, 2012). In our study, the first and last authors are pediatric PTs with extensive clinical experience from primary and specialist health care. The third author is an experienced specialist in neurological physiotherapy. All three PT authors have experience from teaching PT students at advanced levels, and share a common interest in professional practices as well as interactive processes in physiotherapy, which may impact preconceptions (Malterud, 2001). The second author is a nurse and sociologist. She questioned the PT authors' preconceptions, positions and established assumptions about physiotherapy throughout all stages of the research process. For instance, initially the PT authors did not notice the inconsistency in the interviewees' descriptions using supervision, training and treatment interchangeably. The sociologist highlighted and questioned the inconsistency which affected the further angulation of the investigation and data interpretation and led to the formation of the theme *Supervision as an unclear practice*. All the authors, especially the second, third, and fourth authors, have extensive experience in planning, conducting, and publishing qualitative research.

Ethics approval and consent to participate

The Norwegian Social Science Data Services (NSD), which serves as an internal review board for Norwegian universities and research institutes, gave their approval for this study (June 2013). The study was performed according to the Declaration of Helsinki (World Medical Association, 2013). All the participants in the study gave written informed consent.

Findings

Supervision as an unclear practice

Supervision was performed as a part of ordinary clinical practice. When the PTs talked about treating the child, supervision was not described as a separate activity, but as an integral

part of the treatment. Thus, the therapists did not clearly distinguish between therapy and supervision in their descriptions of treatment sessions where the dedicated aide was present. They used terms such as supervision, treatment, and training interchangeably, and accentuated that it is difficult to distinguish between treatment and supervision because they always do both simultaneously. When talking about treatment, they linked treatment to a unique form of activity that occurs because of their professional expertise. The PTs defined professional expertise as knowing how to choose and conduct appropriate exercises and master techniques to facilitate movements in the child. They voiced that knowledge of anatomy, physiology, and motor learning and development as well as their experience form the basis for their professional performance. They described a continuous process during which they, as professionals, weaved between professional reflections and clinical observations to promote the child's motor development. The PTs highlighted that this kind of professional competence is important that the dedicated aides understand. In that respect, the PTs related supervision to serve two purposes: first, to transfer professional expertise to the dedicated aides, thus enabling and empowering them to work effectively and safely on their own, and second, to support their own treatment to ensure continuity when they were not present. One PT said:

> *We have taken pictures of all starting positions (…) and I have made a list of all the necessary measures [that the dedicated aide must conduct when the PT is not present] as a quality assurance [of the follow-up].* (PT_1)

Later on during the interview the same PT continued her reasoning about quality assurance of the aides' work and stated,

> *Sometimes I think: have I <u>really</u> said that? (…) or: did they [the dedicated aides] perceive it [the supervision] <u>that way</u>? (...) therefore I always ask: What have you achieved? What worked? What didn't work? We always go through these issues when we meet.* (PT_1)

When talking about training the PTs' linked training to a series of activities and exercises they used to achieve treatment goals and, thus, expressed a perception of training as a combination of therapeutic exercises and everyday activities. One PT said:

> *A lot is going on in the [play] kitchen that the child doesn't think of as therapy. When it comes to balancing, rotating the spine, collecting stuff, reaching, moving from one spot to another, walking between the furniture, preferably holding something in his hand.* (PT_1)

Another said:

> *During circle time, I think it's important that the aide challenges the child to actively work with head control by letting the child sit on the aide's lap instead of always sitting in a half-lying position in the mobile [a chair with a sitting unit designed especially for children with impaired postural control in the trunk and neck].* (PT_5)

When the PTs talked about training as therapeutic exercises, they linked training to treatment in the contextual terms of general motor exercises, such as rolling, crawling, sitting, and walking, to promote gross motor skills in accordance with normative motor milestones. One PT said:

> *The child is supposed to sit, you know. She is even beyond sitting age. So, I follow the motor milestones [and bring her to a sitting position] because she is not supposed to just stay on the floor and roll around.* (PT_5)

When the PTs talked about training as everyday activities, they accentuated the importance of merging exercises into everyday situations, such as changing diapers, circle time, playing, eating, dressing, and undressing. The PTs said that although these situations may appear as ordinary activities to others, everyday activities represent very valuable learning experiences for the child. They underlined that they strove to teach the aides how everyday situations can be used in treatment purposes. One PT said:

When changing diapers, they [the dedicated aides] can stretch the child`s hip muscles (…), or they can stretch the child's leg muscles in dressing situations. (PT_6)

Another PT said:

[On the changing table] she [the dedicated aide] can exercise abdominal muscles by letting the child pull himself up to a sitting position using his arms. (PT_5)

Another PT exemplified by describing how the dedicated aide of a three-year-old child, whose muscles in the lower limb were weakened, should bring the child from sitting to standing position whenever the opportunity appeared to strengthen the child's hip and leg muscles and thereby help the child to become more independent in relocation:

This is an easy exercise for the dedicated aide to implement into daily activities. The goal is that the child learns to use his legs to push himself up to standing. (PT_3)

The PTs stated that such activities are about adapting and adjusting the task and the environment in a way that challenges the child outside his comfort zone. One of the PTs, who referred to a child with impaired walking balance, noted that she strove to supervise the dedicated aide in how to challenge the child's balance system in daily activities by providing one-hand support rather than two-hand support, and said:

I supervised the aide in how to provide [minimal] support. That is, to provide a loose grip around the child's hand and keep the arm down here and not above the child's head [the PT demonstrated by lifting and lowering her own arm while explaining]. (PT_1)

Another voiced that she supervised the aide in how small adjustments of both the task and environment could create challenges and new learning opportunities for a child whose goal was to achieve more strength in hips and leg muscles:

When the child wanted to play with the farmer's animals on the floor, I suggested to move the animals to the table so that the child could exercise on getting up [from the floor] and stand with weight bearing on both legs. (PT_7)

According to the PTs, quantity and repetition are important elements in children's motor learning and, therefore, a certain degree of activity needs to be maintained every day. They said that they strove to provide treatment one to two times a week, but recognized that they sometimes had to cancel due to meetings and other appointments. Consequently, the PTs said, the frequency of physiotherapy sessions decreased. Therefore, it was of particular importance for them to provide treatment to the child and simultaneously supervise the dedicated aide how to facilitate movements in the child and how to integrate exercises in daily activities within the timeframe of the therapy session. One PT explained:

There are so many challenges to overcome. The child has many scheduled activities that don't correspond with my time schedule, so it's basically hard to find a suitable day for therapy sessions. Sometimes the aide doesn't work full days, which means that she's not here when I'm here. In periods, there have been weeks between each session the aide and I meet. Although I'm available for supervision and questions by phone, it will never be the same. Therefore, it's so much easier to blend everything [supervision and treatment] into the therapy session. (PT_2)

Supervision as oral dialogue

The PTs contrasted supervision of aides to physiotherapy students and expressed that it was easier to supervise physiotherapy students because they shared the same professional position as themselves and therefore had other preconditions for understanding therapeutic actions. They voiced that they to a greater extend articulated orally the purpose, content and implementation of therapeutic measures during supervision of dedicated aides compared to supervising students. In that respect, the PTs emphasized that professional conceptuality

represents a challenging obstacle in verbal communication. Hence, they felt the need to adjust their professional style to use a more common language, for instance, by using words such as 'tense,' 'stiff,' or 'tight' rather than 'spastic,' or replacing descriptions such as 'impaired balance' and 'stability' with descriptions such as 'swaying torso' or 'clinging walk':

> *I'm thinking that I have to use words that the dedicated aide understands. So, I can hardly use my physiotherapy jargon.* (PT_6)

Moreover, the PTs highlighted that they found aspects of their professional expertise difficult to articulate orally but rather easily supervised through actions complemented by simultaneous verbal explanations during interaction with the child:

> *The important thing, I think, is to explain constantly as I'm doing things. So, I don't just do them. I demonstrate it to them [the dedicated aides] while I explain it.* (PT_5)

However, the PTs expressed that it was challenging to interact with the child while explaining. They expressed a certain ambivalence regarding how active the dedicated aides should be asking questions when the child is present. The PTs found it positive that the aides wanted to be involved, but at the same time, they often experienced that the treatment sessions diverged in unexpected directions when unforeseen questions arose. However, according to the PTs, the dialogue might lead to substantial discussions above the child's head, sometimes leading to more discussions than treatment. Consequently, they experienced that less time is spent addressing the child:

> *I think it's smart to do it [to include the aide] sometimes, but you shouldn't do it every time because then you can't concentrate on the child.* (PT_1)

The PTs expressed that when addressing the aides during treatment of the child they put a lot of effort in explaining their clinical reasoning in order for the dedicated aides to understand the professional rationale behind the PTs' actions, such as how the child moved, what the child's challenges were, and the treatment goals and focus. The PTs stated that they

invited the aides to engage in professional thinking by soliciting the aides' thoughts and judgments. Thus, entering into dialogue with them the PTs sought to enhance the aides understanding of the PTs professional expertise in relation to the implementation of the therapeutic measures the aide should perform in the aide's daily practice with the child. However, if unsuccessful, they experienced the dedicated aides' would likely fail in the implementation of the daily follow-ups with the child:

> *They [the aides] might be present and they can do the movement or they can watch things being done, but if they don't understand the importance, they might choose not to do it.* (PT_4)

The PTs said that achieving solutions regarding treatment tasks and activities through reflection becomes particularly difficult for the dedicated aides, as the PTs experienced that the dedicated aides do not have basic professional background. In that respect, the PTs highlighted that supervision of aides deviates from what they have learned about supervision through peer discussions. They therefore wondered whether they supervise or teach:

> *If you use the supervision term, as the supervision gurus want you to, then it's difficult to supervise someone with a different professional background.* (PT_7)

Supervision as Bodily Interaction

The PTs highlighted that interactions with children require improvisation and judgment to permit the child's engagement to lead the treatment. According to the PTs, their repertoire of theoretical and practical knowledge helps them to improvise when interacting with the child. They stated that supervision of dedicated aides, therefore, is not just about demonstrating and explaining exercises or techniques, but also elaborating on the clinical relationship. The performance of the exercise or technique must be related to the child's bodily expressions, responses and adjusted accordingly, they claimed. The PTs accentuated

that they demonstrate, through their own actions during supervision, how the aides ought to relate to the child's bodily responses and expressions. One PT said:

> *It's all about following the child's initiative. I didn't pick her up before she signaled that she was ready to be picked up… You know, it's all about giving her the time she needs.* (PT_5)

Furthermore, the PTs suggested that the aides cannot learn proper interaction with the child through observation alone but must experience by themselves how to interrelate with the child. Therefore, some of them underlined the importance to bring the dedicated aides actively into the interaction with the child. One said:

> *It really makes sense that the dedicated aide joins in along the way and participates. I do not see it as an observation-treatment situation. It's more just a mix of things.* (PT_3)

Another said:

> *What I focused on today was stretching exercises (…) where the aide placed her hands and that she got eye contact with the child.* (PT_6)

The PTs said they were eager to teach the dedicated aides the importance of movement quality. It is of significance for the dedicated aides to have an eye for why children move as they do and how to help to optimize the child's success of a task, they stated. One said:

> *I have supervised on <u>what</u> the dedicated aide should look for... head in the midline and chin tucked... It is very important that the dedicated aide looks for movement quality.* (PT_1)

At the same time, the PTs accentuated that it is difficult to teach the dedicated aides to understand and recognize movement quality:

> *Let us take the child then. It is not just about getting up, but how she does it and with what kind of movements. That's not really so easy to teach someone.* (PT_2)

Another PT said:

It is challenging (…) some of the aides even lack knowledge about their own bodies. (PT_4)

In addition to being concerned about the aides being able to recognize movement quality, the PTs also were apprehensive about the dedicated aides' ability to help the child to a better movement quality if necessary. As well as facilitating the environment, the PTs perceived their own hands being an important tool through which they could assist and help the child's movements appropriately for a better movement quality. Hands-on techniques were therefore something they emphasized to teach the dedicated aides and they suggested that the better way to learn handgrips was for the aides by performing the action themselves.

To teach physical grips [hands-on techniques] requires first-hand experiences [for the dedicated aides] because only then questions arise. (PT_1)

The PTs described stretching as a hands-on technique that was easy to teach because it is about placing hands on specific areas. However, they perceived other hands-on techniques, in which grip and pressure are adjusted so that the child joins the movement, were more difficult and challenging to communicate to the aides. The PTs said, for the aides to improve their hands-on techniques and hopefully master them, they found it useful to give the aides approval for their efforts and to let the dedicated aides implement the technique while the PT looks for and corrects the placement and use of the aides' hands as to where pressure and direction should be given.

The important thing is to reassure the dedicated aide that she's doing a good job and maybe make her realize how to reinforce the effect of her hands… Help her to become more distinct in her handling. (PT_3)

However, the PTs recognized that if insecurity in their own skills, that is, how to position their body and use their hands, it was more challenging to teach hands-on techniques

to the aides. They noted that they themselves sometimes needed to seek help in acquiring hands-on experience:

> *I wanted supervision from the hospital on that 'where- to- put -my –hands' issue because it's so important, you know.* (PT_6)

Discussion

Supervision in pediatric physiotherapy can be seen as participatory sense-making processes. The PTs described that when they addressed the aides during treatment of the child they strove to enhance the aides understanding of the child's motor function and therapeutic principles, to enable them to work independently with the child in everyday situations. However, similar to what other researchers have reported (Davys & Beddoe, 2010; Kilmister & Jolly, 2000; Sellars, 2004), the PTs in this study expressed that it is difficult to distinguish between supervision and treatment because they always do both simultaneously. Based on the PTs' statements they seemed to struggle to structure and add content to supervision practices as their primary goal was said to provide treatment to the child. Hence, supervision appeared as secondary to treatment during clinical encounters, which makes supervision to a more random and less important process. Therefore, the accountability for organizing supervision of dedicated aides (Health-Care-Services, 2001, Chapter 2, §5) seems to be challenged by the ambiguity between treatment and supervision.

In line with what previous research on supervision of health care workers have highlighted (Iversen et al., 2008; Kilmister & Jolly, 2000; Sellars, 2004), verbal PT-aide discussions appeared for the PTs to be vital for the dedicated aides to reach an understanding of training and exercises. However, the PTs experienced that the dedicated aides struggled to comprehend concepts and content in physiotherapy which required extended explanations, thoroughly discussions and transformation of their professional expertise. The discussions or participatory sense-making processes (Di Paolo et al., 2010) seemed to create certain

negotiations between the participants' individual concerns, negotiations which may create tension between the participants (Cuffari, Di Paolo, & De Jaegher, 2015). While the PTs in this study expressed a need for providing therapy to the child, they also considered the aides to require targeted and focused attention for making sense of how to facilitate movements in the child. Although the sense-making processes were related to the actions with the child, the PTs experienced the verbal discussions with the aide to put the child in the periphery of the interaction. Therefore, as the PTs perceived they constantly had to move attention between performing adequate therapy and involving the aides in clinical judgments and reflections, supervision appeared as a fragile and vulnerable task which jeopardized the therapy itself in a way the therapists could not foresee. In general, patterns and rhythm of coordination in interaction might make agents act, interact and react to the interactions own internal structure (Fuchs & De Jaegher, 2009), processes that for the PTs caused steering the course of the treatment, but also seemed to drive the sense-making processes for the aides forward.

The PTs said they transitioned their medical jargon into a more common form of language through deconstructing their knowledge and simplifying their actions and language in order to make sense for the dedicated aides. This process was perceived challenging. Language is described as an embodied process through which notions, concepts and style comprise an understanding beyond the pure grammar and words (Cuffari et al., 2015). Individuals are from birth immersed in language and socialized into linguistic ways of sense-making through languaging, action and interaction (Cuffari et al., 2015). Accordingly, PTs professional language relates to a group of similarly qualified people holding a unique body of expertise and training (Nicholls & Gibson, 2010). To communicate the meaning of this expertise required the PTs to provide complementary descriptions to bring forth the meaning, using common words and expressions related to the context of actions. Consequently, the

deconstruction of PTs' professional language while supervising becomes sophisticated circles of transformations.

Even though the verbal discussions were considered important for the aides' sense-making processes, the PTs experienced that discussions done concurrently with therapy were not sufficient for teaching the aides clinical skills. Neither was the combination of talk and observation of the PT in action. These findings resonate with what is described in the literature (Engelsrud, Øien, & Nordtug, 2018; Øberg et al., 2014); therapeutic principles communicated verbally, provide limited insights about the child's contributions during clinical encounters and the interactional aspects that occur during therapy. Drawing on the work of Merleau-Ponty (1962), the mind, body and environment are interlinked. As living subjects one perceives and experiences one-self, others and the world through one`s own moving body (Merleau-Ponty, 1962). In that respect, the body is the perceiver of experience (Gallagher, 2014). Accordingly, to fully understand the concepts of what they have discussed and observed, the aides need to make use of a first-person experience in an embodied interaction with the child to understand concepts and therapeutic handling. Furthermore, such embodied interactions are dynamical actions through which understanding and meaning emerge through the coordination and synchronization of movements formed in the context (Fuchs & De Jaegher, 2009). In on-going embodied interactions, perception involves both sensory and motor processes (Gallagher, 2005, 2014), which means for the aide and the child that each of their bodies are mutually affected. First-person experiences may therefore contribute to develop aides' insight and awareness of the child`s subtle bodily expressions as it unfolds, insights important for tuning into and adjust body positions and handgrips during therapy (Øberg, 2014). Thus, the central role of the body in pediatric physiotherapy and first-person experience are worth accentuating in the context of supervising dedicated aides.

Methodological considerations

The phenomenological-hermeneutical approach of this study allowed insights into PTs' perceptions of specific possibilities, challenges, obstacles, and barriers that they faced when supervising dedicated aides, and generated rich and in-depth data. The trustworthiness (Polit & Beck, 2012) of the study was strengthened by the use of several researchers, independent and collective viewing and analysis of the material, and discussions between the authors throughout all phases in the research process. In line with Polit and Beck (2012), we strove for transferability by providing carefully descriptions of the study context, the participants, the data and the data analysis. We suggest that through analytical generalizations (Malterud, 2001) the findings might be applicable to municipal PTs beyond this study.

Clinical implications and future directions

The findings highlight the need for multifaceted competence in PTs involved in supervision of dedicated aides, which sets certain requirements for the PTs to succeed in supervision. PTs must develop their ability to understand and respond to aides' needs and to supervise via including the aide in the therapeutic work and interactions with the child. Accordingly, PTs need to acknowledge that supervision of professional expertise extends beyond unidirectional communication of information and includes the mutual exchange of embodied, experiential knowledge among the PT and the aide during interaction with the child.

Moreover, the findings indicate implications for quality assurance of supervision: PTs should exercise caution in delegating treatment task(s) that include specific handling skills, thus ensuring through observation of the aide in (inter-)actions that the aide has gained proper understanding and can adequately perform the task(s). In that context, continuity of care is a vital scope for future research, particularly the long-term treatment interventions that are carried out by non-professionals, such as aides, and their ability to translate physiotherapy expertise into the child's everyday routines. A deeper understanding of these aspects will

allow us to improve the care given to CP patients so that development is maintained or improved.

Conclusions

Our findings show that pediatric PTs perceived supervision of dedicated aides during therapy to children with CP as a complex activity. Supervision appeared as a more random, less important, fragile and vulnerable process, which jeopardized the therapy itself. During verbal discussions with the dedicated aides, the PTs experienced they had to transition their medical jargon into a more common form of language. To make the dedicated aides fully understand the concepts and content in therapy, the PTs accentuated the importance of the aides to attain first-person experience through embodied interactions with the child.

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Table 1. Basic demographic details of the PTs (randomized order)

Gender	Work experience	Number of children with CP	Further Education
Female	8 years, mostly with children 0-18 years of age.	Some	Postgraduate training in pediatric physiotherapy
Female	19 years, patients of all ages	Some	Some courses in pediatrics
Female	10 years, patients of all ages.	1	None
Female	>2 years, patients of all ages	2	Postgraduate training in pediatric physiotherapy
Female	20 years, mostly with children 0-18 years of age.	Several	Several courses in pediatrics
Female	>2 years, mostly with children 0-18 years of age.	3	Some courses in pediatrics
Female	25 years, mostly with children 0-18 years of age.	Several	Postgraduate training in pediatric physiotherapy

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