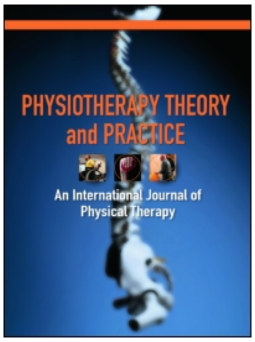

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Group-based, individualized exercises can provide perceived bodily changes and strengthen aspects of self in individuals with MS: a qualitative interview study

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ABSTRACT

Background: Group-based physiotherapy is effective for individuals with MS; nevertheless individualization within groups is questioned and little is known regarding individuals´ experiences with individualization in small groups.

Objective: We aimed to explore the short- and long-term experiences of individuals with MS participating in a 6-week, group-based, individualized physiotherapy-intervention.

Methods: Within a randomized controlled trial (RCT), 25 in-depth interviews with a strategic sample of 13 people (9 women; age 25–79 years old; European Disability Status Scale (EDSS) 1–6.5) were conducted at weeks 7 and 30 using systematic text condensation, with dynamic systems theory and phenomenology as analytical frameworks.

Results: The main categories were: 1) movement control, orientation and insights: Bodily improvements were associated with targeted exercises, specific adjustments by the physiotherapist, emotional engagement and re-access to activities; and 2) the individual within the group: Equal distributions of one-to-one interactions and attention were important for experiencing success. Less attention and improvements turned attention toward own disability. Physical changes felt particularly emotional short term, implying that individuals' feelings of ownership and control of body and movement, new views of themselves and changed affordances in daily life were involved.

Conclusion: Equally distributed attention and engagement, targeted exercises and hands-on adjustments resulting in visible and perceived bodily changes were experienced as key factors of individualization in small groups.

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Multiple sclerosis; group-based; physiotherapy; core stability; balance

Introduction

Individuals with multiple sclerosis (MS) often have balance problems in both the initial and later phases of the disease (Aruin, Kanekar, and Lee, 2015; Huisinga et al., 2014; Kalron et al., 2016) due to a variety of somatosensory, motor, postural control and vision impairments (Cameron and Lord, 2010; Krishnan, Kanekar, and Aruin, 2012). Balance dysfunctions are associated with an increased risk of falling (Comber, Sosnoff, Galvin, and Coote, 2018) and less participation in daily activities (Cameron and Lord, 2010; Cattaneo et al., 2017), and can influence aspects of self (Normann, Sørgaard, Salvesen, and Moe, 2013). Individual exercise therapy is associated with improvements in walking (Dalgas, Stenager, and Ingemann-Hansen, 2008; Hogan and Coote, 2009; Snook and Motl, 2009) and balance (Gunn et al., 2015; Paltamaa, Sjogren, Peurala, and Heinonen, 2012; Rietberg, Brooks, Uitdehaag, and Kwakkel, 2005); and the same association has been reported for group-based interventions for individuals with MS (Arntzen et al., 2019; Forsberg, von Koch, and Nilsagård, 2016; Tarakci et al., 2013).

Studies on users' experiences from group-based exercise programs for individuals with MS have reported social benefits (Dodd, Taylor, Denisenko, and Prasad, 2006), improvements in daily activities, and increased body confidence (Carling, Nilsagård, and Forsberg, 2018; Van Der Linden et al., 2014). Training in groups is a motivational factor for empowerment, improved energy, reduced fatigue, and the gaining of knowledge in self-assisted training (Clarke and Coote, 2015). A review of qualitative studies of individual interventions revealed similar positive findings; however, commonly perceived adverse consequences were increased fatigue and feelings of frustration and lost control (Learmonth and Motl, 2016).

Although the prevailing principle of individualization (European Multiple Sclerosis Platform, 2012) has been questioned in group settings (Kalron et al., 2019; Plow, Mathiowetz, and Lowe, 2009), an individualized intervention conducted in small groups was recently

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introduced and found feasible and effective on trunk control, balance and walking in individuals with MS (Arntzen et al., 2019; Dybesland and Normann, 2018; Normann, Salvesen, and Arntzen, 2016) From a professional perspective individualization within small groups is dependent on an initial individual assessment (Lahelle, Øberg, and Normann, 2018b), ongoing movement analyzes and adaptations through hands-on interactions (Lahelle, Øberg, and Normann, 2018a). Knowledge gained from the participant´s perspective regarding small groups is however limited.

The interest in new theoretical conceptualizations for more diverse and inclusive views of the body has increased among physiotherapist (Nicholls and Gibson, 2010; Nicholls and Holmes, 2012). Conceptions of body and movement that emphasize physical interaction as communication and allow integration of neuro- and movement science and embodiment, have previously been introduced in regard to one-to-one neurological physiotherapy (Normann, 2018; Normann, Fikke, and Berg, 2015; Normann, Sørgaard, Salvesen, and Moe, 2013; Øberg, Normann, and Gallagher, 2015; Sivertsen and Normann, 2015). No prior studies have used such comprehensive conceptions in order to investigate and analyze individualization within groups. In order to generate new insights regarding this topic, we turned to a combination of dynamic systems theory (DST) (Shumway-Cook and Woollacott, 2017) and phenomenology (Gallagher, 2012; Merleau-Ponty, 2013), with a particular focus on Gallagher (2013) "Pattern Theory of Self", to emphasize both physical aspects and deeper meaning of the participant´s bodily experiences.

DST is a commonly used model for understanding motor control and learning (Shumway-Cook and Woollacott, 2017), and it involves adopting a third-person perspective on the body (Normann, 2018). DST comprehends movement as self-regulated due to three factors: 1) constraints for movement in the individual; 2) task; and 3) environment (Shumway-Cook and Woollacott, 2017). Each factor contains subsystems that are open for manipulation, for instance, by the physiotherapist's specific handling (individual), choice of exercise (task) and training equipment within the situation (environment). Through manipulations of the subsystems, a new, more effective movement pattern can develop, resulting in a new attractor status or preferred movement strategy (Thelen, 2005), which is often a goal of neurological physiotherapy. DST provides an analytical tool to deepen our understanding of the participants' individual actions and experiences concerning individualization or lack thereof, as well as potentially perceived positive or negative changes in constraints regarding bodily impairments, activities and participation. Such a third-person view of the physical body is fundamental to physiotherapy in order to understand movement control, biological and biomechanical aspects of the body (Normann, 2018). However, this view might also imply that the body is separated from the mind (Nicholls and Gibson, 2010) and thereby also from subjectivity (which according to DST is associated with the cognitive subsystems) (Normann, 2018). In order to explore what individualization within a group and potential positive or negative bodily changes mean to a participant, a first-person perspective on bodily experience is justified and may be emphasized by phenomenological and more existential theoretical aspects (Normann, 2018).

The key to the possibility for combining such quite different theories lies foremost in one of phenomenology ´s core element; the ambiguity of the body. That is the fact that the body is the centre of experience and expression, and simultaneously is a biological and biomechanical organism (Merleau-Ponty, 2013). The "lived body" or the body-as-subject, experiences the world from a first-person perspective, and concurrently may be perceived or observed from a third person perspective (the body-as-object) for instance in a clinical examination (Merleau-Ponty, 2013; Normann, 2018; Øberg, Normann, and Gallagher, 2015). Phenomenology gives primacy to the lived body, which incorporates and is modulated by movements (both pre- and post disease and therapy) and is characterized by intentionality or an outward orientation in processes of perception, sensation and movement/motility (Merleau-Ponty, 2013). Since intentionality is primarily motor, this affords the possibility for integrating the participant´s subjective phenomenological experiences of the body with the DST´ objective analyses the body. We note that some precedent for combining DST and phenomenology can be found in enactivist approaches to cognition especially in the work of Varela, Thompson, and Rosch (1991).

In instances of physical interaction and communication between individuals (e.g. therapist and patient) the body-as -subject involves 'inter-corporeity' an experiential and physical coupling (Merleau-Ponty, 2013), previously emphasized in relation to hands-on interactions in neurological physiotherapy (Normann, 2018). Impairments and symptoms due to MS can disturb the lived body, with the result that one's outward orientation is also affected for instance in a decline of the quality and quantity of one's affordances (Gibson, 1986), and in the feeling of the "I can" (the sense that I can engage in some action) becoming the "I cannot" (Gallagher, 2017; Gibson, 1986). This change involves a loss of autonomy and one's sense of agency (Gallagher and Daly, 2018).

To explicate a deeper meaning of the participants' feelings of self in regard to body and movement, or the embodied self, we turned to the "Pattern Theory of Self"

(Gallagher, 2013; Gallagher and Daly, 2018) and focused on the following factors: A) The experiential factors which imply: 1) bodily experiences related to body-schematic and somatosensory functions; 2) sense of ownership for body and movement, which has strong somatosensory components; and 3) sense of agency or control of one´s movement, with strong motor components (Gallagher, 2012, 2013; Merleau-Ponty, 2013). Since these body functions and structures are often addressed in physiotherapy for individuals with MS, these insights could enlighten bodily experiences from the training. B) The reflective factors, which include body image are defined as a reflective awareness of one ´s body,involve how I perceive myself and the stories or narratives that I and others tell about me (Gallagher, 2013). Changes in bodily experiences; both in regard to increasing disability or improved possibilities for movement may shape the individual's stories and reflections of what they can ("I can") or can not do ("I cannot"). C) The intersubjective factors involve the way I see myself in relation to others. This statement reflects the fact that all group members and the physiotherapist are embodied selves and will perceive and express meaning through their physical interactions, gazes, gestures and words, constituting "intercorporeity" (Merleau-Ponty, 2013). These interactions may provide other viewpoints compared to when being alone (Sokolowski, 2000). D) The extended factors include how I identify myself by, for instance, the activities in which I participate. Such extended factors are directly relevant for individuals with MS, in which disability can gradually change opportunities or the range of affordances in daily life.

Combining analytic tools of DST and phenomenology may reflect the complexity of neurological clinical practice and can help us gain knowledge about all of these factors in regard to individuals with MS´ experiences from group-based physiotherapy. With this background, the aim of the study was to investigate the users' experiences of individualized physiotherapy (GroupCoreDIST) in group-based settings. We ask the following research question: What are the short- and long-term experiences and reflections of ambulant individuals with MS regarding participation in an individualized, group-based intervention, particularly regarding individualization and potential bodily changes?

Methods

Design and choice of method

Based on the research question and the theoretical framework, a qualitative in-depth interview study (Brinkmann and Kvale, 2015; Malterud, 2016) was chosen to target the phenomenological experiences of individuals with MS concerning their short-term insights and long-term reflections regarding their experiences from participation in a 6-week, group-based physiotherapy-intervention.

Context of the study

The interview study was nested within a randomized, controlled trial (RCT) with 80 ambulant participants (EDSS-level of 1–6.5; 1 = minor disability, 6.5 = being able to walk 20 meters with or without a walking aid) and was conducted in six municipalities in Norway between 1200 and 51,000 inhabitants, examining the effects of a new, individualized, group-based intervention called GroupCoreDIST compared to those of standard care with respect to trunk control, balance, walking, activity level and health-related quality of life (Normann, Zanaboni, Arntzen & Øberg, 2016). Six physical therapists (who had 7–25 years of experience, three as specialists in neurological physiotherapy and three as generalists) conducted the intervention after being trained in GroupCoreDIST for five days and receiving a booklet with descriptions and photos of the 33 exercises, all having 5 levels of difficulty.

GroupCoreDIST-intervention

GroupCoreDIST emphasizes the multifaceted aspects of balance. CoreDIST stands for the coordinated interplay between proximal and distal parts of the body, and DIST stands for D = dose (high), dual task; I = individualization, insights; S = stability, specificity, somatosensory activation; and T = training, teaching. The intervention includes an initial individual clinical examination performed by the physiotherapist (group leader). The group sessions consisted of three participants for pragmatic reasons having diverse or similar EDSS values and lasted for 60 minutes, three times per week for six weeks. All of the group members performed the same exercise concurrently, however with difficulty tailored by the physiotherapist to each individual. Table 1 describes the GroupCoreDIST intervention, and the protocol article provides details of the exercises (Normann, Zanaboni, Arntzen, and Øberg, 2016).

Participants and sample

One of the MS nurses at the hospital sent invitation letters with a consent form concerning both the RCT and the interview study. The participants signed the written informed consent form and were informed that they could withdraw at any point. The study was approved by the Regional Committee for Medical and Health Research Ethics in Norway (REK South-East: 2014/1715-7) and complied with the Declaration of Helsinki.

Table 1. Description of the GroupCoreDIST intervention.

GroupCoreDIST Dose and equipment	GroupCoreDIST Content and examples
Individual clinical examination 60-minute session before the start of the group sessions	History: Medical, social and patient history; symptoms; main issues from the patient's perspective Analysis: Observation and hands-on interaction. Consider the patient's resources and constraints for movements. Posture analysis: Various postural sets; for example, standing, sitting and lying down. Consider the alignment throughout the body and for each body area, adaptation to the base of support and interaction with the environment. Activities/movement analysis: For instance; walking, standing on the toes or heels, squats, one-leg standing and other balance challenges. Consider the body's relation to the base of support, movement patterns of the body as a whole, and specific body parts and their relation to each other, the task and the environment. Consider the ability to perform selective movements (to move one part of the body while stabilizing other parts) to provide coordination. Specific tests: Muscle length, muscle activation and strength, tonus, somatosensory function, pain, reflexes. Introduction to GroupCoreDIST exercises: Choose and try out a few exercises in relation to the individual's movement problems. Hands-on adjustments to improve alignment, adaptation to the base of support and movement quality. Explore the participant's ability for improved performance in the exercises. Conclusion: Consider the patient's resources and issues, hypothesis of causation and the main problem related to movement and balance and potential for improved movement control.
Group sessions Duration: 60 minutes, 3 times per week for 6 weeks Equipment: Large therapy balls, small mobilization balls as well as rolled towels, bolsters, plinths and rubber bands for optimal alignment.	Planning the group sessions: Consider each participant's main problem and which underlying impairments are related to it. Choose exercises that suit the three participants and choose the appropriate postural set and variation of exercises (5 variations for each of the 33 exercises, 6 different exercise categories) for each participant to be able to perform the exercise with optimal movement quality. Goal: Teaching the participants specific exercises that can be performed both together with a physical therapist and at home. It is a goal that participants should perceive improvements in balance and movement control.
Beginning and end of all group sessions	The physiotherapist asks how everyone is doing that day and for experiences regarding the performance of home exercises. Individual balance challenges are performed simultaneously for all participants at the beginning and end of each session, to perceive and reflect on their own balance that day, compare their own balance before and after each session, and provide an opportunity for the physical therapist to interlink the individual's balance challenges with the choice of exercises.
Exercises Perform up to 3 × 10 repetitions according to the individual's capacity and quality of performance. As the quality of movement in the exercise improves, the physiotherapist may adjust the dose by increasing the number of repetitions, using a more difficult variation of the exercise or adding dual task challenges.	Group members concurrently conduct the same exercise but with different variations according to symptoms and quality of performance. All six exercise categories should be used at every group session. All exercises target optimal adjustment to the base of support and activation of the core while performing the exercise. The 6 exercise categories are: 1) Somatosensory stimulation/activation of the hands or feet: exercises 1–2, somatosensory activation of the feet or hands to enhance adaptation to the base of support, for instance, by rolling a mobilization ball with the hands or feet. 2) Muscle length: exercises 3–9, addressing concentric and eccentric activity in muscles of the neck, upper and lower limbs. 3) Selective movement and coordination: exercises 10–21, selectively moving the arms and legs or particular parts of the core. Focus on dynamic stability, keeping one part of the body stable while moving another. 4) Training larger muscle groups: exercises 22–27, recruiting larger muscle groups in various standing positions for instance rolling the ball up and down toward the wall with your back. 5) Advanced challenges for balance and postural control: exercises 28–32, giving advanced challenges for postural control and balance for instance jumping while bouncing the therapy ball. 6) Relaxation: exercise 33, systematically performing contraction/relaxation of other parts of the body.

(*Continued*)

Table 1. (Continued).

GroupCoreDIST Dose and equipment	GroupCoreDIST Content and examples
Additional challenges and adaptations	Motor-motor dual tasks are performed in all exercises while performing more than one motor task at once for instance as keeping the back in contact with the therapy ball while rolling it from side to side. Advanced motor-motor dual tasks such as throwing a towel or a ball to the other group members could be added. Motor-cognitive dual tasks may be added, for instance, singing, rhyming or calculating while performing exercises. All dual task activities may also enhance group dynamics, engagement and having fun. Both instructions and hands-on facilitation are allowed to improve movement quality, make movement possible or easier, decrease inexpedient compensatory movement patterns and optimize the movement experience (Vaughan-Graham and Cott, 2016).
Home training Unsupervised GroupCoreDIST exercises for 30 minutes, 2 times per week during the six weeks of the intervention	The physical therapist cooperates with each participant to identify exercises for home training. The exercises are individualized and mirror what is highlighted during group trainings. Home training contains all six exercise categories. The training progresses in line with the exercises performed in the group sessions. Equipment: The same as for the group sessions

Table 2. Participants' demographic background data. The mean or % and (min-max) are presented.

Variable	Total (n = 13)
Age	Mean 46 (25–78)
Gender	9 women/4 men, 69%/31%
Type of MS	Relapsing remitting 9/69% Primary progressive 2/15.5% Secondary progressive 2/15.5%
EDSS	Mean, 3.5 (1–6.5) years
Time since diagnosis	Mean, 10.8 (0.5–23) years

From the 40 participants in the GroupCoreDIST-group, ECA and BN chose a strategic sample for the interview study with the following criteria: variation in age (24–-77 years); gender (9 women and 4 men); EDSS-values (1 and 6.5); and time since diagnosis (0.5–24 years) (Table 2). The selected participants were from training groups led by all the PTs. We also purposely selected participants reported by the physiotherapists to be dissatisfied, satisfied or neutral regarding the intervention. For pragmatic reasons, and because many similar experiences were repeated by different participants (Malterud, Siersma, and Guassora, 2016) we ended up with a sample of 13 patients who were interviewed twice, for a total of 25 interviews (one person died of natural causes before the second interview).

Data collection

The audio-recorded, face-to-face interviews were conducted by the first author (ECA) at study-week 7 and 30 (from December 2015-September 2016); they took place in a quiet room at the hospital (23 interviews) or in one participant's own home (2 interviews) and lasted for 46–126 minutes (altogether 1927 minutes). The interviews were anonymized, and sensitive personal information was omitted. A theme-based interview guide with open-ended questions was used to explore the participants' experiences and reflections, actively asking also for negative experiences (Tables 3 and 4). The interview guide was tested on two individuals with MS prior to the study, and adjustments were made to meet specific ethical standards. In the first interview, the participants were invited to describe and reflect on their experiences from the GroupCoreDIST-assessment and exercises, the group setting, tailoring, impairments, and potential changes within the body and daily activities. The second interviews addressed retrospective reflections regarding the same themes and the impact on their daily lives after the intervention was completed. During the interviews, the participants' answers were rephrased for communicative validation (Brinkmann and Kvale, 2015). For ethical reasons, the interviewer was sensitive regarding the participants' stories and attempted to capture what was said in a way that correlated with what was meant (Brinkmann and Kvale, 2015). All interviews

Table 3. Interview guide: 7-week interviews.

Theme	Possible questions
Background information	Could you tell me a little bit about yourself, please? Time of diagnosis, type of MS, EDSS status, where you live, are you employed, your social status, physical activity, and have you been seeing a physiotherapist before the study?
Opening question	Is there anything you would like to point out and tell me about your participation in the GroupCoreDIST training?
Experiences from the first meeting with the physical therapist and the individual clinical examination	How did you experience the first meeting with the physiotherapist and the individual clinical examination? What did the individual clinical examination before the group training started mean to you?
Experiences from the 6 weeks of group-based training	How did you experience the GroupCoreDIST training? How did you perceive and respond to the training? How did you perceive the group?; the content of the training?; individualization?; hands on interactions and and instructions? How did you experience the physiotherapist`s role and competence? How did you perceive the dose and intensity of the training? What did the training mean to you? Did you learn anything from the training period? Were there any challenges during the training? Could you tell me what happened in these challenging situations? Did you experience some things that went really well? Some things than did not work out so well?; Or some things that you would like to change? Could you tell me if there were any episodes in particular that made a special impression on you? Was there anything you did not like, something that made you feel uncomfortable or was not as expected? Have you reflected on the group-based training compared to previous experiences with physical therapy?
Experiences from home training	How did you experience the obligation for home training? Can you describe one of your regular home-training sessions, how you experienced this and what it meant to you? Were there any challenges? Things that went well or not so well? Are there things you would like to change? How did you experience performing the exercise on your own?
Experiences of impairments, daily function, activities and participation	Can you describe how you experience your function, impairments and disability? Can you describe daily activities you normally participate in? Did you experience any changes? How was family life and life in general during the period?
Experience of quality of life	Is there anything you would like to pinpoint concerning your daily life? Did you experience the training as having a negative or positive influence in your daily life?
Closing question	Are there any experiences from the group-based training that you would like to share that other individuals with MS or physiotherapists could learn from? How did you experience being interviewed?

ended with an opportunity for the participant to express his or her feelings about being interviewed, which revealed no negative utterances.

Data analysis

The data were transcribed and systematized using NVIVO-11.0/12.0 (QSR International) by ECA, and were analyzed by systematic text condensation, a thorough process of decontextualization and recontextualization (Malterud, 2001, 2012). All of the transcribed material was read in an open-minded way by ECA and BN, and most parts were read by GKØ to obtain an overall impression of the material, followed by discussions of provisional themes. Subsequently and guided by the research question, ECA identified meaning units, which were coded in accordance with their meaning, followed by organization of the coded meaning units into groups based on their content and finally into subgroups (decontextualization) organized by an active search in the material for both negative and positive findings. Following negotiations between ECA and BN on every step in the process and regular workshops between ECA, BN and GKØ, regarding the organization and interpretation of findings, the meaning units in each subgroup were agreed on and rewritten by ECA in a condensed 1st-person form. ECA transformed the condensates to analytic texts in 3rd-person format, which was compared with the transcripts to validate the original context (recontextualized) (Malterud, 2017). SG joined regular e-mail correspondence and one workshop regarding interpretation of the theoretical framework in relation to the findings. All the authors verified each analyzing step and critically reviewed the manuscript. In line with guidance from the Northern Norway Regional Health Authority two user representatives participated in the project group, contributed in both the planning of the study and a workshop where the findings and what these could mean to individuals with MS were discussed. The analysis yielded two main categories, each containing two subgroups. An example of the analysis process is shown in Table 5.

Table 4. Interview guide: 30-week interviews.

Theme	Possible questions
Opening question	Is there anything you would like to point out and tell me about your participation in the GroupCoreDIST? Do you have any reflections of the period after the training was completed?
Experiences of impairments, daily function, activities and participation	Can you describe how you experience your function, impairments and disability? What daily activities do you normally participate in? Did you experience any changes in daily activities during or after the training period? Were there any challenges? How did you experience family life and life in general after the training period was completed?
Experiences from home training	Did you perform home training after the intervention was completed? How did you experience this? Were there any challenges? Things that went well or not so well? Or things you would like to be different?
Retrospective reflections from the 6 weeks of group-based training	How did you experience the training? How did you respond to the training? How did you experience the group? The content of the training? Individualization? Hands on adaptations and instructions? How did you experience the physiotherapist`s role and competence? How did you perceive the dose and intensity of the training? What did the training mean to you? Did you learn anything from the training period? Were there any challenges during the training? Could you tell me what happened in these situations? Did you experience some things that went really well? Or not work out so well? Would you like to change something? Could you tell me if there were any episodes in particular that made a special impression on you (positive or negative)? Have you reflected on the group-based training versus previous experiences with physical therapy?
Experience of quality of life	Is there anything you would like to pinpoint concerning your daily life/life quality in the period after the training finished? Did you experience the training to have any influence in your daily life long term (positive or negative)?
Thoughts about the future	Do you have any thoughts concerning future physical therapy, group-based training, or activity in the future? Any challenges?
Closing question	Are there any experiences from the group-based training or the period after the intervention was completed that you would like to share that other individuals with MS or physiotherapists could learn from? Do you have anything else you would like to share? How did you experience being interviewed?

Reflexivity

The research team included different competencies: ECA and BN are clinical specialists in neurological physiotherapy for adults and the creators of GroupCoreDIST, GKØ is a specialist in pediatric physiotherapy, and SG a philosopher and an expert in phenomenology. The two patient representatives both participated in the RCT part of the study, but were not interviewed. They provided important insights, for example as they spontaneously reported similar experiences to what was extracted from the material of that feelings of improvements in strength or sensibility meant that they felt more in control and had lead to easier access to daily life activities, and expressed a congruency of group settings sometimes being hard.

Experience and knowledge regarding neurological physiotherapy, GroupCoreDIST and individuals with MS gave the interviewer (ECA) and the last author (BN) positioned insight (Paulgaard, 1997). This background, combined with the research team´s insights in DST, phenomenology and experience from performing interview studies enforced the team to create a targeted interview-guide, which through discussions served to illuminate our preconceptions regarding the phenomenon in advance. Moreover, the interview guide was prior to the study adjusted through two test interviews with individuals with MS. These were transcribed and discussed in order to increase the quality of the interview guide and the interview competency of ECA, including to ask adequate open-ended questions and follow-up questions allowing for surprises to occur, such as the unexpected strong emotional feelings related to positive bodily changes in individuals with minor disability as well as others who experienced less improvements. The research team furthermore discussed the interview guide and verbalized what we thought could be potential answers, what would be relevant to ask for and how to ask in a way that opened for stories and reflections that we haven’t thought of before. We considered the interview guide to be balanced, allowing the participants to lead the direction of their answers. Since the participants mostly highlighted positive situations, they were also asked directly for negative experiences (Tables 3 and 4).

During the interviews the first author tried to understand the meaning of the participants´ statements and to ask adequate follow-up questions to capture each person´s uniqueness; for example: could you tell more about that? could you describe what you and the PT did in the situation? What do such experiences mean to you? Was there anything you did not like, something that made you feel uncomfortable or was not as expected?

The risk of being too close to the material and overlook blind spots was addressed by the systematic analytic approach to the material in line with Malterud (2001), which included the discussions to develop the

Table 5. Description and examples of the analytical process.

Preliminary themes	Feeling a change Changes in everyday life and activity Confirmation of change The examination The physiotherapist's one-to-one interactions, adaptations and engagement	
Theory: Dynamic systems theory	Manipulation of constraints in the individual, the task and the environment. Changes in the individual´s subsystems make the whole movement pattern change which leads to improved movement control.	
Theory: Phenomenology of the body	Changes influence the self-pattern: both pre-reflective and reflective aspects, how each individual looks at themselves and becomes attached to own movement possibilities: body schema, sense of ownership and agency. Body image and narrative self. "I can" or, in some cases, "I can't."	
Meaningful units	*"The changes feel fantastic; it makes me feel like there is hope, that it is actually possible to improve something that has been totally pacified and to move easier."*	*"Suddenly, I experienced myself walking up the stairs without holding the handrail."*
Code group	Changes in bodily impairments and activities are meaningful for the participant	
Sub-groups	Bodily changes and engagement	Reaccessing opportunities
Condensates (short summaries)	The participants reported the intervention to have a major impact, both immediately and in the long term, involving the absence of headaches, improved sensation in the hands and feet, improved activation of core muscles and better balance, as well as a faster gait with longer steps, more power and propulsion, and more endurance. They highlighted the importance of specific and engaged verbal instructions for exercises combined with hands-on facilitations by the physiotherapist during the group sessions.	The participants highlighted that living with a progressive disease such as MS meant gradually giving up activities. They were therefore astonished by the way the improvements in impairments and movement control had enhanced daily life activities and the performance of domestic obligations such as doing laundry without taking breaks and being able to stand on one's toes to reach the upper kitchen cabinets and to carry two cups of coffee while walking. The participants expressed emotionally that increased energy allowed them to spend more time with their children and other family members.
Category	Movement control, orientation and insights	

interview guide, the presented literature review and the applied theoretical framework. This enabled us as a research team to be more conscious of our pre-understandings, which we actively strived to set aside throughout the study.

Throughout the analyses the authors tried to be open and attentive, and had discussions where alternative interpretations of the material were considered, for instance was the participants´ strong focus on their own performance emphasized in relation to the fact that this was a group setting, and the high focus on positive improvements discussed in relation to the small amount of negative experiences. We discussed if there could be aspects of the few challenging situations that still needed to be highlighted in order to understand significant elements of GroupCoreDIST, and continually challenged the interpretation of the material by asking: what does this mean? what else could it mean?

The four researchers had different competencies, experiences and tasks in the research process, which enriched the discussions and interpretations of the material and provided adequate distance. For instance, two of the authors read all and another read much of the transcribed material in order to discuss and validate that the content of the categories and subgroups were in line with the themes that the majority highlighted. Furthermore, the consistent use of theoretical perspectives throughout the whole process was validated by all authors, with special insights from the third author who has an extensive overview of the literature in this area.

None of the authors were involved in the group trainings or assessments in the RCT, which was an advantage in that it did not exert pressure on the participants to emphasize only positive experiences. The interviews were conducted before the testing sequences at both 7- and 30-week interviews, to avoid the participants being influenced by their perceptions of success or nonsuccess in the balance and walking tests. Being a part of the intervention group may though in it self have strengthened the feeling of success as participants received a new treatment offer, more attention and additional structure to the week.

Results

The findings are presented as analytic text condensed from the interviews (Table 6, overview of categories and subgroups) and are supported by illustrative quotations involving most of the participants and marked with informant identification (number), gender (M/W), age (years) and EDSS value (EDSS).

Table 6. Overview of the categories and subgroups.

Category	Movement control, orientation and insights		The individual within the group	
Subgroup	Bodily changes, and engagement	Re-access to opportunities	Acceptance and interactions	Adjustments and attentiveness to the individual

Movement control, orientation and insights

Overall, the participants' provided strong and emotional short term experiences from the GroupCoreDIST regarding improvements in bodily impairments and movement control, which enhanced positive views of themselves, strengthened outward orientation and allowed them to join new activities. New accomplishments were continued in the long term but reported with less emotional excitement. Absence of improvements was associated with increased awareness of their own impairments by two participants.

Bodily changes and engagement

> *… Even during the examination, I felt that it became easier to walk! And then I looked forward to what was coming; I felt something happen. (ID 3, M (65), EDSS 5.5)*

The participants emphasized that the individual assessment prior to the group sessions was important for the physiotherapist to choose suitable variants of exercises. Both participants with high and low EDSS-values were surprised that even their minor but perceptible symptoms were detected. Seven individuals reported perceiving immediate changes in performance in the initial examination, which created positive expectations for the training. All participants reported that the high dose of training was well tolerated; however, eight participants said that getting there, organizing their travel from home or work and finding a parking space, was a bit energy consuming.

All participants emphasized that the GroupCoreDIST-intervention addressed their movement problems more specifically than prior experiences from physiotherapy, where many described being offered a general training program and insufficient adjustments. Twelve individuals described perceiving varied bodily improvements during and immediately after the intervention such as: cessation of headache; improved sensation in the hands and feet; improved activation of core muscles and balance; faster gait with longer steps; and more power, propulsion, and endurance. These short-term experiences were described as feeling fantastic, being emotional and meaningful.

The participants, furthermore, highlighted the importance of specific and engaged verbal instructions combined with hands-on facilitations by the physiotherapist. Although all participants reported sometimes struggling in the start of a new exercise, most reported that one-to-one situations with the physiotherapist during a group session including fine-tuned hands-on adjustments, enabled them to move easier and to feel and understand how to perform an exercise adequately. One such one-on-one situation was described like this:

> *"I noticed the changes, yes, and she [the physiotherapist] noticed the changes, and she became so excited! I mean, it was so exciting!" " … She mobilized, massaged and moved my foot at the same time … ." "Suddenly, I managed to move my toes, and I was not able to do that in the beginning." "So it seems to pay off, even in a leg that you think is of no value." (ID2, W (70), EDSS 6)*

Two participants reported that the physiotherapist sometimes did not tailor the exercises according to their perceived needs, which led to experiencing difficulties in performing, not noticing any changes, and an increased focus on their own disability. Nevertheless, all but one participant reported that their active contribution and bodily improvements made them feel proud and in control. This outcome generated hope and less concern regarding the future. One participant used these words:

> *" … This is the best thing that has happened since I got the diagnosis! Yes! I get so emotional when thinking about it [tears in her eyes] … ." "Ever since I got the diagnosis, I have had a huge M-S on my shoulders; it has unintentionally dragged me down." " … . Can you imagine! It [the training] had such an effect! If I had only known … " " … When I perceived how good it was for my entire system, for my body, I got so motivated!" (ID 4, W (49), EDSS 1.5)*

Reaccessing opportunities

> *Suddenly, I experienced myself walking up the stairs without holding the handrail.*
> *(ID 12, W (40), EDSS 1.5*

All participants highlighted that living with a progressive disease such as MS felt unpredictable in regard to future mobility, and many had gradually given up activities. They were therefore astonished by the way their bodily improvements enhanced their daily life activities and domestic obligations, such as doing the laundry without taking breaks, being able to stand on their toes to reach the upper kitchen cabinets and being able to carry two cups of coffee while walking. Those who had kids or grandkids emotionally expressed having more energy to play with them. Employed individuals reported that job tasks had become easier both during and after the intervention was completed (as expressed both at the 7- and 30-week interviews). They stated that working made them feel healthier and more normal. One participant (a teacher) said:

> *I have especially struggled with keeping my balance at my job. When I walk in the hallways, I have to step over like 100 backpacks along the way. However, now I have noticed that if something is on the floor, I don't think about how to walk. I actually manage to walk over or beside it, without taking sidesteps or having to stop and think about how to get past this area and without losing my balance completely, and that feels so great! (ID 12, W (40), EDSS 1.5)*

All but two participants reported at the 30-weeks interviews, performing unsupervised home-based GroupCoreDIST exercises during and up to three months after the intervention. All stated that unsupervised exercises felt less meaningful because, without the physiotherapist's hands-on adjustments and instructions, fewer immediate changes appeared and the training got boring. Five participants added, with sorrow, that some of the bodily improvements achieved during the training-period reversed after some months. Eight participants though reported, both at 7 and at 30 weeks, to have started new activities or activities they had once quit, such as aerobic training, hiking, cycling and jogging. Earlier, even minor impairments had caused them to quit exercising together with others because they were afraid that their deficiencies would show. One participant, who previously loved to exercise, said that he had once again started going to the gym with friends, and believed that he could "accomplish anything" when experiencing such meaningful bodily improvements from only six weeks of training. He said:

> *"As I felt my body started functioning again, and I managed to do things again, I wanted to try once more the things I couldn't manage previously. So my self-confidence has improved, along with my bodily improvements." … "Previously, I didn't dare to try anything because I was afraid to fail, but now, I have decided to go for it – no matter what!" (ID 6, M (25), EDSS 1)*

The individual within the group

Overall, the group setting was reported as safe and fruitful at both the 7- and 30-week interviews, especially when the participants experienced tailored adjustments by the physiotherapist, perceived positive bodily changes, and experienced appropriate attention from the group and physiotherapist. These factors enriched the experience of being in a group and strengthened the feeling of individual success. When attention and adjustments were not obtained, the group setting became challenging, and the focus turned toward their own disability compared to the others in the group.

Acceptance and interactions

> *"We are in the same boat." … . "It felt safe. We didn't judge each other – what I can do and what you can't do." (ID 7, M (78) EDSS 6)*

The majority emphasized the value of meeting other individuals with MS and reported that the group's expectations for them to show up made it easier for them to attend. Even if they had the same diagnoses, they noted each other's different impairments during group sessions and highlighted the importance of performing tailored variants of the same exercise. Sharing a diagnosis meant gaining acceptance and understanding when having bad days and not being embarrassed about balance difficulties, being misunderstood as drunk, or blamed for being lazy when becoming tired. One individual described the group atmosphere as follows:

> *… It is just something about the unity in a way, and well, we got to know each other, and we all understand. We all have MS, and we understand what it is like to have MS.(ID 4, W (49), EDSS 1.5)*

The balance checkpoints at the beginning and end of every session, where the aim was to explore one's own balance, were particular situations when the participants reported observing each other's performance. These parts of the session were described with excitement and interest, particularly when focusing on their own performance and if the group verbalized observable improvements. Seeing others perform better than oneself was, however, described as frustrating. Both those with severe and mild disabilities, emphasized that noticing other group members struggle with exercises at their level, increased the perception of one's own success. One severely disabled woman expressed this as follows:

> *He [another participant] was one of those guys who woke up at 7 in the morning three times a week to go to the gym and exercise, exercise, exercise … but when he was set to do these small movements that the physiotherapist instructed, then he didn't perform them any better than me. This was difficult for him, even though he could walk perfectly [compared to me]. (ID 9w, W (72), EDSS 6.5)*

Adjustments and attentiveness to the individual

> *"It is very individual what each and every one can accomplish." … "She [the physiotherapist] was constantly ensuring that we all performed correctly." (ID 3, M (65), EDSS 5.5)*

The physiotherapists were described in various ways; some as skillful and enthusiastic, others as strict but firm or as warm. Three participants reported that the physiotherapist looked in the manual to remember the exercises, which led to less attention toward each participant and slower progression in the session. All but two participants described excitement when someone improved at their individual level, and that sufficient attention to everyone in the group and hands-on tailoring to enhance each individual´s problems were important for their perception of success within the group. One participant described this as follows:

> *There were several exercises where all three of us were struggling, and then she [the physiotherapist] came around and adjusted us in different ways, and suddenly, we all succeeded! I am truly aware of that interaction, how good it feels, the group, that we succeeded – all of us – and that felt so great. (ID 5, W (26), EDSS 4.5)*

The group setting was, however, sometimes challenging. The same two participants who said that the physiotherapist did not tailor the exercises sufficiently also thought that the physiotherapist seemed to be more interested in the group member who performed "best," which made them feel like outsiders in the group. One participant described how skewed attention and fewer adjustments provided negative experiences:

> *"I couldn't do it because my body doesn't listen. I don't have the skill and balance and strength to perform the exercises from instructions, and I had to give up, and I felt like watching the ship go down." "… When you are invited to do the same as the group and you can't do it, you just cannot do it! Then, I moved backwards in time and remembered so strongly when I had that functional level." (ID 13, M (64), EDSS 5.5)*

Discussion

Specificity provides bodily changes and new opportunities

The participants' perceptions of improved symptoms, movement control and easier access to daily activities are not surprising and in line with significant effects on balance in the RCT, in which this interview study is nested (Arntzen et al., 2019). It is also in agreement with previous reviews of effects in balance and walking (Byrnes, Wu, and Whillier, 2018; Gunn et al., 2015; Hogan and Coote, 2009; Paltamaa, Sjogren, Peurala, and Heinonen, 2012; Rietberg, Brooks, Uitdehaag, and Kwakkel, 2005; Snook and Motl, 2009) and qualitative studies of group-based training in individuals with MS (Carling, Nilsagård, and Forsberg, 2018; Clarke and Coote, 2015). Targeted hands-on adjustments, combined with instructions and engagement, were emphasized as essential for experiencing bodily improvements. One example is a participant who described that the physiotherapist's mobilization combined with active movement of her foot suddenly enabled her to move her toes. In line with DST, these interactions could be associated with manipulations of constraints in the individual´s biomechanical, motor and somatosensory subsystems, which also seemed to influence the emotional and cognitive systems, as the participants enthusiastically noticed the changes. According to DST, all the reported improvements in sensibility, core stability, balance, walking, motivation, etc., could be linked to effected changes in the individual's constraints for movement.

Improvements in walking and daily activities were reported both in the short and long term. Since gait training was not part of the intervention, these changes may be due to changed constraints in individual subsystems, that influenced the whole self-regulated system, indicating new attractor statuses regarding these activities (Shumway-Cook and Woollacott, 2017; Thelen, 2005). Specificity in tasks and optimizing the individual's constraints are required in neurological physiotherapy (Frykeberg and Vasa, 2015), and are important for recovering optimal movement strategies following lesions in the CNS (Kleim and Jones, 2008; Levin, Kleim, and Wolf, 2009; Lipp and Tomassini, 2015). A focus on movement control and movement quality has traditionally stood in contrast to task orientation (Carr and Shepherd, 2010). Our findings suggest that specificity in the therapeutic approach addressing the prerequisites for an activity, for instance hands-on mobilization, was meaningful to the participants and created improvements. Even if gait training as such was not conducted, partial tasks were introduced, such as instructions of rolling the ball from side to side, addressing lateral weight transfer, which is an important prerequisite for walking (Gjelsvik and Syre, 2016). This suggests that a detailed focus on prerequisites and tasks simultaneously may be important elements for successful individualization within a group setting. This fruitful mixing of movement and task has previously been emphasized in regard to individual settings (Normann, Sørgaard, Salvesen, and Moe, 2013).

For the few participants who did not experience bodily changes and adequate adjustments regarding specific hands-on interactions or exercises, the total system might have remained unchanged, with the result that the individual's movement strategies remained the same. Experiencing their own failure in performance compared to the others´ success may have lead to a verification of own disability and a negative influence on the cognitive and emotional subsystems. Such feelings of frustration and lost control has also been accentuated in a review study (Learmonth and Motl, 2016).

In our study, participants with both high and low EDSS values claimed that another essential element of individualization was the physiotherapist's choice of adequate exercises for the group, with different variants for each individual. We consider these actions as manipulations of constraints in the tasks (Shumway-Cook and Woollacott, 2017). The specificity in the choice of actions for each individual´s within the group was furthermore highlighted as possible due to the initial clinical assessment. This finding is in line with studies examining the physiotherapist's perspective regarding GroupCoreDIST (Lahelle, Øberg, and Normann, 2018a, 2018b). Individualization has been questioned within group settings both in regard to feasibility and effects (Kalron et al., 2019; Plow, Mathiowetz, and Lowe, 2009). In strength and endurance training individualization is often emphasized in relation to intensity, duration, diverse number of repetitions or load (Dalgas, Stenager, and Ingemann-Hansen, 2008). The current study of participants in small groups points out that in addition to these aspects, addressing the individual`s underlying constraints for movement by choosing from the 33 exercises, levels of difficulty, the use of hands-on adjustments and exploring immediate changes (Normann, Zanaboni, Arntzen, and Øberg, 2016) creates both physical improvements and deeper meaning.

Turning to phenomenology, the one-to-one situations where the physiotherapist and a participant worked together to improve sensory-motor function and performance through a mix of instructions and hands-on interactions, may be seen as a form of bodily communication mediated through inter-corporeity and an establishment of a shared agency (Merleau-Ponty, 2013) Such interactions made possible both a pre-reflective, subjective awareness of their lived body and a reflective awareness on their own possibilities and sometimes a deviation and lack of possibilities (Gallagher, 2012). For instance, might both the improvements regarding sensibility in the feet, core activation or feelings of increased movement control be considered a strengthening of "I can" and intentionality, as their outward directedness generated more affordances in daily life, while the lack of such changes affirmed the status quo. Specific bodily changes were emotional and meaningful. This stands in contrast to other approaches in neurological physiotherapy, in which the achievement of whole activities and not impairments or the quality of the task is considered meaningful (Carr and Shepherd, 2010). In this study, bodily improvements were emphasized as becoming incorporated into daily activities, for instance, by being able to walk past backpacks at work and to balance on one's toes to reach the upper kitchen cabinets. These findings suggest that the participants' body schemas, sense of ownership and agency regarding body and movement the prereflective experiential aspects of the self-pattern (Gallagher, 2005, 2012, 2013) were updated, giving individuals improved opportunities to regulate movement and posture in daily life. This interpretation implies that bodily changes are meaningful, and are not only about neurophysiological processes but also about the pre-reflective aspects of self-experience.

Since what we can or cannot do helps to shape our thoughts (Gallagher, 2005), the short- and long-term reports of new activities, such as cycling or carrying coffee-cups while walking, generated among the participants a "new look" at themselves and gave insights into future possibilities and affordances (Gallagher and Daly, 2018). These experiences indicate that the reflective aspects of the individuals' self-pattern (including the narrative aspect) were updated and might have influenced how they identified themselves, which is in line with descriptions from individual settings (Gallagher, 2013; Normann, 2018; Normann, Sørgaard, Salvesen, and Moe, 2013). The extended factors of the self-pattern seem also to be in play, since the participants managed daily activities more easily, such as having energy to play with their children. The increased focus on own disability reported by two individuals could be due to fewer perceived improvements generating lower expectations of possibilities which may explain the distress among these individuals, and also among those who felt impairments returning some months after the intervention. Such return of symptoms are highlighted by Leder (2016) to possibly increase the feeling of loss and lack of control that comes with a chronic disease, and would be important to have in mind in physiotherapy in regard to content and timing of future follow-up.

The group setting reinforced the participants' self-reflections

The participants highlighted that training together with others who had MS made the training situations feel safe, motivated them and gave them a perception of accomplishment, in line with other studies (Clarke and Coote, 2015; Dodd, Taylor, Denisenko, and Prasad, 2006; Learmonth and Motl, 2016). As emphasized by our findings, the interactions between the physiotherapist and a group member made new possibilities for movement visible to all the group members. When such interactions with a shared sense of agency were equally distributed among all participants, it strengthened the individuals' feelings of being acknowledged within the group. The interactions between other group-members especially involved positive comments during the balance checkpoints and awareness of the others struggling. These situations created a shared agency between all members of the group and thereby strengthened each single person´s sense of agency, as well as the reflective factors of the self-pattern, including the individual's body image (Gallagher, 2013; Merleau-Ponty, 2013). This implies that the multimodal communication between all embodied subjects of the group co-constructed insights that were incorporated in their lived bodies and brought forward "pre-MS" experiences and self-narratives, and oriented them toward a focus on activities that they could accomplish (increasing the feeling of "I can"). In contrast, when skewed attention, inappropriate tailoring, fewer changes and task accomplishment were experienced there was an increase in the feeling of "I cannot", including recollection of previous experiences of giving up activities and losing control, which often is described in relation to having a chronic disease, in which bodily restrictions gradually appear (Carel, 2008; Toombs, 1987). This underscores vulnerability regarding group situations, and that together with others we also compare ourselves with others and create meaning through the others (Sokolowski, 2000). Conversely, identifying your own specific symptoms and addressing them in relevance to function can demonstrate your specific needs and uniqueness within the group, which might be of relevance for motivation and meaningfulness during the training period- at least if improvements in performance are pinpointed simultaneously. Seeing the other participants' performances might furthermore be linked to identifying oneself in relation to one's own and other participants' abilities, associated with both the intersubjective and extended factors of the self-pattern (Gallagher, 2013). Positive or negative attitudes in therapeutic situations might extend to the perceived opportunities and affordances in daily life, for instance, the participants' descriptions of feeling more normal due to managing their jobs better or, in contrast, avoidance of participating because the "body doesn't listen." These aspects of physiotherapy involving an individual's sense of self are important, although rarely emphasized in clinical practice or prior studies within the field.

Methodological considerations

This study involved a strategic sample of thirteen participants, which might be considered a small number. A strategic sample is essential in qualitative depth-interview studies, and has its strengths in the search for participants´ nuanced experiences, including both positive, neutral and negative experiences, in order to answer the research question. Limitations may be that some of those who were not selected might have been able to add additional aspects to the phenomenon. Considering a population of 40 individuals in the GroupCoreDIST intervention-group, 33% (13/40) participated in two interviews, for a total of 25 extensive interviews that produced a large amount of nuanced data of the investigated phenomenon, which is in line with Malterud's (2016) characteristics of sample sizes in qualitative studies (Malterud, Siersma, and Guassora, 2016). The interview study being nested in an RCT makes the study context special, involving repeated measures, which might have influenced participants' experiences and expectations. The fact that one of the creators of GroupCoreDIST conducted the interviews may have stressed the participants and influenced the large amount of positive expressions. Negative experiences were therefore also highlighted in the findings even if they were emphasized by only a few individuals. The study was conducted in six different municipalities, involving different clinical physiotherapists, which improved the relevance and transferability of the results (Malterud, 2001). Different physiotherapists conducted interviews, RCT assessments and interventions. A detailed protocol was used (Normann, Zanaboni, Arntzen, and Øberg, 2016) with thorough descriptions of the methods and reports of all of the items of the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong, Sainsbury, and Craig, 2007) and Standards Reporting Qualitative Research (SRQR) (O'Brien et al., 2014) checklists, all of which improved the trustworthiness of the study. The participants had EDSS scores of 1–6.5, and the groups consisted of only three participants, which would limit the transferability to ambulant individuals with MS and small groups.

Implications for clinical practice

The findings support integration of elements known from individual physiotherapy with social elements known from group settings. This indicate that group interventions aiming for improved balance should consider including an initial individual examination, specific one-on-one adaptations and exercises that allow for individualization in order to address the individuals' specific symptoms and positive verbalization of improvements among the group-members.

By the use of a mix of analytical tools we have gained a deeper understanding of the participants bodily experiences and why these were so important to the them- it was not just about the body as biomechanics, neurophysiological processes, muscle strength or balance, but how it mattered to them as individuals, how they experienced themselves and their opportunities. These aspects may be important and general features in physiotherapy, because the way you perceive your own body is closely related to how you experience yourself and own possibilities in the world. Studies are warranted of the possibilities for individualization and experiences of bodily changes within larger training groups containing participants with equal EDSS.

Conclusion

Most of the participants in GroupCoreDIST experienced physical improvements in body functions and structures, activities and participation in the short and long terms. The changes felt emotional and meaningful, involving increased feelings of ownership and control of body and movement. This changed how they looked at themselves, at their opportunities and affordances in daily life, implying that both pre-reflexive and reflexive aspects of the self-pattern were influenced. Changes and success were linked to different elements of individualization: detailed exercises that targeted each individuals' constraints for movements; one-to-one situations with the physiotherapist including hands on adjustments and; the group setting, as long as there was equal amount of on-to-one interactions, and positive attention from the physiotherapist and the other group members occurred. Skewed attention, inadequate choices of exercise variance or lack of adjustments were associated with less changes and an increased focus on own disability.

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