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A mixed-methods process evaluation of a goal management intervention for patients with polyarthritis

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Process evaluations of newly developed interventions are necessary to identify effective and less effective intervention components. First aim of this study was to identify key components of a psychosocial goal management intervention from the perspective of participants, and second aim was to evaluate the intervention's fidelity. A mixed-methods approach was applied to 24 interviews with participants post-intervention and 16 audio recordings of random training sessions. Participants experienced three key components: (1) the content, in which specific exercises helped to raise awareness and (intention to) change goal management behaviour, (2) person-focused approach, specifically, the nurse as trainer and personal fit of the approach, and (3) social mechanisms, including facilitating group processes and interpersonal processes. Adherence to the protocol by the trainers was high, while differences were found in the degree to which they were able to apply the intended collaborative approach and psychological communication skills. The applied design provided valuable insights into the processes that took place. Both the effects experienced by participants in relationship to the content, approach and social mechanisms as well as the strengths and weaknesses found with regard to fidelity provide insights that can inform the development and implementation of person-focused interventions.

Keywords: qualitative analysis; adaptation; arthritis; mixed-methods; behaviour change techniques

Introduction

Evaluating interventions in terms of the processes that have taken place has become more vital for developers and evaluators of complex health care interventions (Craig, Dieppe, Macintyre, et al., 2008). Such evaluations are necessary because they identify the effective and less effective components, and these findings can, in turn, inform future theories, intervention designs and methods (Linnan & Steckler, 2002; Michie, Johnston, Francis, Hardeman, & Eccles, 2008; Wallace, Brown, & Hilton, 2014) as well as ascertain the pathways by which an intervention's key components produce the desired benefits (Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011; Craig et al., 2008; Moore et al., 2014). A sound process evaluation also determines under which

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conditions the intervention is effective, for whom it is effective and how it can be optimised (Craig et al., 2008; Linnan & Steckler, 2002). Especially in multicentre trials, where the same intervention may be implemented and received in different ways, process evaluations can help to distinguish between implementation failure and failure of the concept or theory (Oakley et al., 2006). Knowledge of the fidelity of an intervention is required for understanding its effects or the lack of it. *Fidelity* represents the quality and integrity of an intervention as perceived by the developers, and includes whether an intervention was carried out according to a predefined protocol and in the manner and the spirit intended (Linnan & Steckler, 2002).

This study evaluated a self-management intervention for people with polyarthritis from the perspective of the participants and assessed the quality of the programme's execution. Polyarthritis includes a variety of disorders associated with autoimmune pathologies that typically result in the inflammation of five or more joints, for example, rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis. Persisting pain, fatigue, disability, deformity, distress and reduced quality of life can be daily stressors for patients with polyarthritis (Klippel, Crofford, Stone, & White, 2008; Scott, Smith, & Kingsley, 2005). Interventions that provide patients with the skills and techniques to live with and manage their disease in daily life are essential, as most of the time people have to manage a chronic disease outside of the health care system (Nolte & Osborne, 2012). The diverse range of interventions concerning patients' management of chronic illness are commonly referred to as self-management interventions, and they aim to increase patients' involvement and control in their treatment and the disease's subsequent effects on their lives (Newman, Steed, & Mulligan, 2004).

However, self-management interventions for patients with inflammatory arthritis usually show limited long-term effects (Iversen, Hammond, & Betteridge, 2010; Nolte & Osborne, 2012). One reason for this might be that current self-management initiatives are often developed from a problem-oriented point of view, as they originate from health systems that are organised around treatment and cure of disease. In contrast, the limitations patients face are not only in the medical domain, but also in their social and psychological domains. Therefore, self-management from a medical approach does not necessarily fit all needs of patients with a chronic disease (Mold, Blake, & Becker, 1991). Making the patient more responsible for his or her own care enhances self-efficacy and supports self-management (Dures & Hewlett, 2012). According to Lawn and Schoo (2010), persons with chronic conditions need (besides ongoing support) a person-centred approach to foster: a greater focus on self-management by the individual person, partnerships between patient and health professionals, and collaboration between health care providers. To stimulate effective self-management, the focus needs to shift from providing information on symptom management and lifestyle choices to a more collaborative model, in which patients are proactive in identifying areas that could be improved for their own self-management (Dures & Hewlett, 2012; Health Foundation, 2014).

One intervention that integrates the polyarthritis patients' perspective is *Right On Target*, a nurse-led group intervention based on goal management theory (Arends, Bode, Taal, & Van de Laar, 2013a). This goal-management intervention can be called holistic, as it aims to match patients' experiences in all aspects of their life. *Right On Target* focuses on how the patient can cope with activities and life goals that have become threatened or impossible to attain due to arthritis. While having and striving for personal goals gives direction and meaning to life (Brandtstädter & Rothermund, 2002; Scheier et al., 2006;

Wrosch, Scheier, Carver, & Schulz, 2003), the pursuit of goals may also produce negative psychological effects when goals become unattainable or no progress is made towards a desired goal (Carver & Scheier, 1990; Pomerantz, Saxon, & Oishi, 2000). Previous studies linked higher levels of various goal management competencies to lower levels of mental distress and higher levels of well-being in chronic disease populations (Arends, Bode, Taal, & Van de Laar, 2013b, 2016; Boerner, 2004; Coffey, Gallagher, Desmond, & Ryall, 2014; Duke, Leventhal, Brownlee, & Leventhal, 2002; Garnefski et al., 2009; Schmitz, Saile, & Nilges, 1996; Zhu, Ranchor, van der Lee, Garssen Sanderman, & Schroevers, 2014). The ability to flexibly use several goal management competencies is needed to cope with the changing circumstances prompted by a chronic disease (Vriezekolk, van Lankveld, Geenen, & van den Ende, 2011); as living with it is an ongoing process of finding equilibrium in situations that may constantly change (Moss-Morris, 2013).

For this purpose, *Right On Target* allows participants to learn general applicable goal management competencies that are not disease specific, but can be applied to various difficult disease-related situations in daily life in which personal goals are threatened. Underlying the programme is the belief that participants need a broad behavioural repertoire and increased self-awareness to make appropriate choices about dealing with threatened personal goals. The four strategies that receive attention in the intervention are: goal maintenance, goal adjustment, goal disengagement and goal re-engagement (Brandtstädter & Rothermund, 2002; Schmitz et al., 1996; Wrosch, Scheier, Miller, Schulz, & Carver, 2003). These four strategies were found comprehensive from a patient's perspective (Arends, Bode, Taal, & Van de Laar, 2015). To develop and stimulate goal management competencies, psychological and behaviour change techniques mainly rooted in learning theory and social cognition theories, such as the use of problem identification, goal setting, modelling and the evaluation of behaviour, were applied in the intervention. The assumption that participants are experts of their own personal situation is reflected in the personal trajectory of the programme (see Method section). The personal trajectory is intended to improve the fit of goal management strategy and the situation of a participant, and increase resilience during and after the programme by adapting the intervention to the needs and social environment of the participants (Blinded for review).

The relationship between the trainer and the participants is best described as collaborative, in contrast to patient-expert whereby the trainer knows what is best for the participant (Health Foundation, 2014; Rollnick, Miller, & Butler, 2008). The trainer is mainly responsible for creating a safe atmosphere in which participants are stimulated to experiment with different goal management strategies for coping with a threatened goal of personal importance. This role is emphasised during the training of the trainers and elaborated in the intervention manual. For example, trainers are advised to encourage the group to help individual participants to identify problems and raise awareness. The use of appropriate psychological communication skills plays an essential role in the creation of a safe atmosphere and supports the above-described collaborative approach (Lang & Van der Molen, 2003).

The first aim of this study was to identify key components of the intervention from the perspective of participants. To answer this question, the elements of the intervention that were regarded as key components by participants were examined. The focus on key components was chosen to gain insights into the perceived processes that took place during participation in the programme and which elements of the programme were seen as responsible for these processes. There were several reasons for focusing

on the perspective of participants. Firstly, as the intervention is intended to relate to the perspective of arthritis patients, their perception on the effectiveness of the components is indispensable in order to identify key components and techniques. Secondly, participants are not passive receivers of an intervention, but interact with it and are influenced by their circumstances, attitudes, beliefs, social norms and resources (Moore et al., 2014). Thirdly, evaluating the needs, wishes and concerns of the intended users provides key information for broader implementation.

The second aim of this study was to evaluate whether the intervention was executed as intended, often referred to as the fidelity of an intervention. The focus in the present study was on the approach and atmosphere the trainers deployed during the group meetings, the psychological communication skills of the trainers and the adherence to the protocol with regard to the sequence of information and exercises during the meetings. This focus was chosen because the specific person-focused character of the intervention is conceptualised as an essential component of the intervention, with the trainers playing a vital role in its implementation. In the current study, nurses specialised in rheumatology care were trained to give the goal management intervention. By placing the intervention in an ambulatory clinical health care setting, we hoped to further develop or strengthen the ongoing patient-provider partnership that might promote self-management in the participants' medical care (Lorig & Holman, 2003).

Method

A mixed-methods approach was used to guarantee a comprehensive evaluation of the complexity of the intervention. Our methodology included semi-structured in-depth interviews with a subset of participants and voice recordings of programme meetings. Different perspectives were combined to gain an understanding of the processes in the intervention and to increase validity of the findings (Bartholomew et al., 2011). The approach of a mixed-methods process evaluation is new in research on goal management in chronic disease. Our aims of deploying multiple data collection methods were to mutually corroborate findings (triangulation) and bring together a more comprehensive account of the research aims (completeness) (Bryman, 2006).

Approval for the study was obtained from a medical ethics review committee under number NL40257.044.12, and written informed consent was obtained from all the participants.

Intervention

Right On Target is a protocol-based psychosocial educational programme for patients with polyarthritis. *Right On Target* was delivered in six group meetings (four weekly and two bi-weekly) in a recent multicentre intervention study. The goal management programme consisted of group-based meetings with 6 to 10 participants and individual homework assignments. Arends et al. (2013a) structured the intervention as follows. First, participants became aware of the influence of arthritis on their life (e.g. the valued activities threatened by arthritis) and the higher goals that were at stake. Subsequently, the participants' standard behaviour and reaction pattern to deal with such difficulties were examined and different behavioural options discussed. In the personal trajectory, participants then chose a threatened activity and were stimulated to try out different behavioural options during the

intervention in order to experience and practise multiple goal management strategies. The experiences of the personal trajectory were evaluated and discussed during the group meetings, and participants were encouraged to help and stimulate each other's new behaviour. The topics and objectives for each meeting appear in Additional Information 1.

Trainers

Four hospitals were approached for participation and interested nurses who specialised in rheumatology care were invited to participate. Four female nurses led two or more groups. The mean age of the nurses was 47.6 years (SD: 10.21, range: 33–56), with mean experience as a nurse of 25.4 years (SD: 10.41, range: 11–35), and mean experience as specialised rheumatology nurse of five years (SD: 1, range: 4–6).

None of the nurses had experience as a trainer in psychological programmes. Two had previous teaching experience. The nurses attended a one-day training prior to the start of the programme. In the first phase of this training, nurses worked through the entire programme in the role of participant to experience the techniques employed. Subsequently, the nurses practised the trainer role, with other nurses as simulation participants. The nurses received detailed feedback on their performance from two psychologists. Trainers' teaching skills and knowledge concerning intervention techniques and the goal management strategies were evaluated at the end of the training. The trained nurses were also monitored and supervised by a psychologist during their execution of the intervention with participants.

Intervention participants

Inclusion criteria for patients to participate in the goal management programme were a diagnosis of polyarthritis, age 18 years or over, and a score of four or higher on the depression subscale of the Hospital Anxiety and Depression Scale (HADS). People with severe pathological distress (total HADS ≥ 22) were excluded. Exclusion criteria were actual enrolment in psychotherapeutic treatment and insufficient Dutch language skills. More details on recruitment strategy and the detailed study design can be found in (Blinded for review). Table 1 shows an overview of the groups, participants, and number of recorded meetings per site.

Interview participants

Two participants per intervention group were interviewed once the programme ended. Participants were selected on the basis of stratified purposeful sampling in order to

Table 1. Overview per site of the number of groups, participants and recorded meetings.

Site	Groups	Participants	Recorded meetings
A	6	40	5
B	3	17	5
C	2	13	3
D	2	15	3
Total	13	85	16

illustrate subgroups of interest (Patton, 1990). The purpose was to compose a sample that differed in age, sex, origin (e.g. Dutch or foreign), work status, diagnosis and disease duration. Characteristics of the participants can be found in Table 2. To prevent the overrepresentation of Site A, no participants from Groups A3 and A4 were interviewed.

Data collection

Interviews were conducted by the first author ($n = 18$) and a research assistant ($n = 6$) and were held at the preferred location of the participant, either at home, at the research university or at the hospital. A semi-structured interview scheme was used (see Additional Information 2). The interviews were recorded using a voice recorder and subsequently transcribed verbatim. Sixteen random meetings of the intervention were audiotaped in order to check for correct delivery of the protocol and other trainer-related aspects regarding the fidelity of the intervention, such as psychological communication skills.

Table 2. Demographic and clinical characteristics of participants in the intervention ($n = 85$) and the interviewed participants ($n = 24$).

	Intervention participants	Interview participants
<i>Sex, n (%)</i>		
Male	24 (28)	6 (25)
Female	61 (71.8)	18 (75)
Foreign origin	unknown	3 (13)
Age, mean (SD), range	57.34 (11.63), 23–82	54 (13.77), 24–73
<i>Marital status, n (%)</i>		
Not living with partner	19 (22.4)	7 (29)
Living with partner	63 (74.1)	17 (71)
Missing	3 (3.5)	
<i>Educational level^a</i>		
None/Low	27 (31.8)	4 (17)
Middle	40 (47.1)	13 (54)
Higher	15 (16.6)	7 (29)
Missing	3 (3.5)	
<i>Work status, n (%)</i>		
No paid job	55 (64.7)	13 (54)
Full-time/part-time employment	26 (30.6)	11 (46)
Missing	4 (4.7)	
<i>Diagnosis, n (%)</i>		
Rheumatoid arthritis	65 (76.5)	18 (75)
Gout and other crystal diseases	2 (2.4)	0 (0)
Polymyalgia and Temporal Arteriitis	6 (7.1)	2 (8)
Spondylarthropathy	6 (7.1)	3 (13)
SLE and other systemic diseases	1 (1.2)	1 (4)
Other/non-classifiable	5 (5.9)	0 (0)
Disease duration, mean (SD), range	7.81 (8.30), 0–41	7.78 (9.02), 1–41

^aLow: no education, primary school or lower vocational education; Middle: high school and middle vocational education; High: high vocational education and university.

Analysis

A thematic analysis of content, driven by the first research aim, was employed for the interviews, and this analysis facilitated a theory-informed approach in the identification of important assertions and themes (Abraham & Gardner, 2009). Analysis started as a top-down process with an initial code scheme consisting of a priori codes based on the research aim and later combined with codes emerging from a subset of interviews. Codes were added during encoding until no new codes emerged during analysis of new data, and then previous interviews were re-analysed using the complemented code scheme. The interviews were analysed by one researcher (Author 1) with a subset of 10% analysed by two additional researchers (Authors 2 & 3). During this process, the code scheme was discussed several times by the researchers (Authors 1–3) and adjusted until agreement was reached between them. The interview data were coded using Atlas.ti 7 qualitative data analysis software.

For the second research aim, the recordings of meetings were analysed. The recorded meetings were intensively listened to and coded by the first author and a research assistant using a code scheme (Petermann, 2014; a concise version of the code scheme can be found in Additional Information 3). With regard to adherence to the protocol, the following themes were coded: the coverage of all content, the correct sequence and the correct explanation by the trainer. For the intended atmosphere, both interactions between participants and between trainer and participants were coded, as well as mutual support provided by participants, the instructions and structure monitoring provided by trainers, and the degree to which trainers emphasised collaboration with participants. Several psychological communication skills were seen as relevant for the creation of a safe atmosphere and supportive of a collaborative atmosphere (Lang & Van der Molen, 2003; Miller & Rollnick, 2002). Codes for psychological communication skills of the trainers included counselling skills (e.g. showing understanding, open-ended questions and small encouragements), dividing attention between all participants, attention given to the needs of the participants and response to subjects beyond the scope of the training.

Results

First we discuss the results that correspond to the first research aim concerning the key components of the intervention as experienced by participants. Then the results of the second aim with regard to the fidelity are provided. Regarding subsequent testimonies, A to D indicate the four sites and the abbreviations M1 to M6 indicate a particular meeting. P followed by a number indicates a specific participant, followed by their sex, age, and the last letters indicate his or her diagnosis. Disease diagnoses were abbreviated as follows; rheumatoid arthritis (RA), spondylarthropathy (SA), polymyalgia (Po) and arthritis psoriatica (AP).

Key components as perceived by participants

Three key components arose from the interviews: content, the person-focused approach and social mechanisms (Table 3 provides an overview). These key components include multiple topics, which are discussed in detail below. (Topics are denoted in *italics*.)

The content

The first key component dealt with the content of the programme. Two major topics that related to this key component were: *raised awareness* and *change in goal management behaviour*. Raised awareness was perceived in several areas and linked to *writing exercises*, exercises that involved *role models* and the technique of *mental simulation*. Change in goal management behavioural was constituted by learning and practising alternative strategies than one's own 'preferred' approach and stating one's own limitations and boundaries. Elements linked to change in goal management behaviour by participants were the *personal trajectory* and the *graphic figures* depicting the four goal management strategies. Some participants wished for ongoing support after the intervention, to sustain or achieve behavioural change. Each participant had his or her own preferences for elements of the training and specific exercises.

Table 3. The participants' experience of key components of a goal management programme: key components and related topics, facilitators and processes.

Key component	Topics	Facilitators/Processes
Content of the programme	<i>Raised awareness of:</i>	
	<ul style="list-style-type: none"> • Own behaviour • Possibilities and limitations caused by arthritis • Accepting arthritis 	<ul style="list-style-type: none"> • Writing exercises • Exercises involving role models • Mental simulation
	<i>Change in goal management behaviour:</i>	
	<ul style="list-style-type: none"> • Learning and practising alternative strategies • Stating one's own limitations and boundaries 	<ul style="list-style-type: none"> • Personal trajectory • Graphic figures depicting four goal management strategies
Person-focused approach	<i>Nurse as trainer</i>	
Social mechanisms	<i>Personal fit of the approach</i>	
	<i>Facilitating group processes</i>	<ul style="list-style-type: none"> • Peer support • Bonding
	<i>Interpersonal processes</i>	<ul style="list-style-type: none"> • Social comparison • Modelling

Note: Key components are composed of topics (in italics).

Raised awareness. Many participants indicated that they were influenced by the training to become more aware and reflective of their behaviour, including awareness and reflections on the possibilities and limitations caused by arthritis, and acknowledging and accepting arthritis. ‘Now with this [training], it’s not so bad at all that there is something you can’t do. Sure, it’s not nice and even feels like a farewell, but still you can also try to do something else instead’ (P3, A, female, 41y, RA). Participants mentioned the programme had increased their acceptance of arthritis as well as quality of life and that they learned specific competencies and tools for dealing with arthritis. ‘The course aims to give our disease a place in our lives, along with tools that will help us to do that’ (P5, A, male, 57y, RA). Some participants came closer to accepting their arthritis and planned to continue working in this way, despite the challenges.

[Awareness of alternative ways to manage personal goals] helps me now, you know. Sometimes I wonder why I didn’t think of it before, for it does make life easier. On the other hand, I can take on an attitude like ‘this is the way I am’ and ‘this is the way I want to be.’ So, one moment it helps and the other moment I put it aside. That’s my stubbornness again. Yet it does help. It helps, because you have to deal with it in a conscious way. (P21, A, female, 38y, AP)

With regard to personal goals, becoming aware of one’s own higher level goals and new and alternative behavioural options emerged.

[The course] also provided me with real insight that allowed me to look at goals in a different way. The [goal hierarchy] pyramid was particularly useful for this. For indeed, it can be one’s goal to do sports, but not in the way I first looked at it: ‘It has to be hockey, it has to be tennis, it has to be this.’ I can no longer do such things and have to let go of them ... For me, it is not about holding a hockey stick or a tennis racket, but about being with other people. That is the insight [the course] gave me. (P24, A, female 36y, RA)

Participants often intended to change their behaviour (see also the following topic) after gaining more awareness.

I now stay alert to the fact that I no longer want to always just move forward. I now very deliberately think: that is what I am still able to do, and that is what I am going to aim at. (P3, A, female, 41y, RA)

Participants considered several exercises as helpful for raising their awareness; mostly the writing exercises, exercises involving role models and the technique of mental simulation. For example, participants stated that writing down limitations caused by arthritis and the accompanying emotions was confronting but very useful. The goal hierarchy pyramid (used for linking threatened activities to associated higher goals) was another example of a writing exercise that participants mentioned as helpful for achieving awareness of personal goals. ‘Those pyramids, so to speak, with the aid of which you set goals – I think they are really important’ (P8, B, female, 24y, RA). Other frequently mentioned helpful exercises were related to role models, including exercises that used narratives of fictitious patients.

I found [the stories] very clear for myself. Sometimes I completely identified with them. I found them very good, indeed, because there I read about the restrictions people actually

live with. Above all, I found it important to see how different people deal with such limitations and what effect this has on family members, friends and acquaintances. (P18, D, female, 65y, RA)

Participants evaluated the technique of mental simulation in a variety of ways. This technique was applied in the training to stimulate people to apply a new, until then not preferred, goal management strategy. The following three quotes show the disunity among participants, who evaluated the exercise as either personally ineffective, challenging but helpful, or self-revealing.

That whole simulation thing – I’m perhaps a little too down-to-earth and pragmatic for it to work. (P5, A, male, 57y, RA)

In itself I did find it practical, which I had not expected. I thought it was going to be really woolly, but, in itself, it was fine. It made you think about things. (P8, B, female, 24y, RA)

The exercise that made us listen to the [trainer] with our eyes closed worked very well. Yes, I could see right before me all that she said. And her tone was ... yes, it was very good. (P13, D, female, 70y, SA)

Change in goal management behaviour. Participants talked about a *change in goal management behaviour* as one of the major effects of the training. Participants saw becoming more flexible in their behaviour and learning how to use other goal management strategies as aims of the intervention.

When the moment is there, try to step out of your beaten tracks ... There are certain things one is used to doing, and when they are no longer possible, you start doing something else ... And now, all those different stories, like the little figures, point to different strategies and that makes one think. Try to solve the issue in a different way. (P12, C, female, 60y, RA)

Also within this topic, increasing self-knowledge with regard to personal goals was mentioned.

I think the course intended, in particular, to show people that they can make choices for themselves, to help them make as smart a choice as possible, instead of continuing the patterns in which they were stuck, and then to see if together they can find new possibilities. (P20, B, female, 55y, RA)

One part of the programme that participants felt as key for changing goal management behaviour was the individual’s personal trajectory, which among other exercises included a detailed action plan.

The aim was to get people moving, specifically to see whether – with the disease one has – is it possible to develop an initiative and not discard it and push it away. To just do it! With a plan of action, you really have to get going. (P14, D, male, 55y, RA)

With regard to the personal trajectory, participants had to choose a threatened activity, execute a preferred strategy to deal with the threatened activity and, subsequently, try

out an alternative strategy. 'It feels like you quickly choose the strategy that suits you best. And then, when you apply a different strategy, you think, Darn, this works better than the [strategy] I would have chosen myself!' (P11, C, female, 49y, AP). Purposeful behaviour was new for some participants. For others trying out alternative ways of goal management offered new insights and produced the greatest changes.

What I hear others say makes me say to myself, 'Don't keep droning on like that! Hang in there and don't immediately say you can't do it!' That is what I learned from it. (P13, D, female, 70y, SA)

The last two times I had to carry out those tasks – really setting myself a target and first following the strategy that I always choose, but then deciding on a different strategy and finding out: 'Hey, this actually works a lot better.' (P11, C, female, 49y, AP)

In particular, participants noted one behavioural change that involved expressing and/or setting one's own boundaries and limitations. Some participants used the programme to start discussing their arthritis-related issues at the workplace or within the family.

For me it was about sooner saying 'No.' I am the kind of person that simply says 'yes' to everything. I have learned now to also think about myself. And that is really very pleasant, especially for someone who suffers from arthritis, a disease that no one is aware of ... To bring this forward in one's family, now that the course is over – I realize that not everyone is always thinking of doing that. But now one hesitates less to say, 'I am sorry, but I am having a bad day today' and take a break ... Just as it is easier now to ask someone, 'Would you mind giving me a hand?' (P22, A, female, 64y, RA)

After participating in the programme, people intended to maintain their new goal management behaviour, mainly supported by their increased awareness of alternative behavioural options to manage personal goals and the benefits of using such options. The graphic figure cards were specifically mentioned as one practical tool used in the programme which helped in sustaining behavioural change. At the end of the training, participants received small cards with graphic figures that depicted the four goal management strategies covered in the programme. These 'figures' were often mentioned as a useful and easy way to refer to the four goal management strategies in the future.

When I am busy with something, I think I will indeed make use of those [figures] in the future. At moments that I believe something is not going right or think, 'What am I doing?' – at such moments I think I will indeed take those figures. (P18, D, female, 65y, RA)

Two participants did not feel confident enough in their capabilities to perpetuate any new behaviour and felt that they needed someone who could act as a personal supervisor or coach. Furthermore, three participants felt that the duration of the programme was not sufficient to address their problems or to internalise their newly learned behaviours. According to these participants, one or more booster meetings would be sufficient to address this matter.

Maybe [we could meet] again in three months and then check: Is he now able to 'do it by himself? Are these ladies now able to do it by themselves, sometimes going out together for a cup of coffee or for a walk? (P24, A, female, 36y, RA)

The person-focused approach

Implicit in the programme was the belief that, while participants can benefit from learning general applicable goal management competencies and increase their self-awareness to make appropriate choices, they know best how to manage their own situation. This belief originated from a person-focused approach. The second key component related to this approach and its operationalisation in the programme included: (a) the *nurse in the role as trainer* as experienced and appreciated by participants, and (b) the degree to which the *person-focused approach fitted the participants*. Many participants assessed these topics very positively and as being a major value for the programme. Some participants were more critical, stating that the person-focused approach did not fit them personally and, therefore, had less impact. One participant stated that he would have preferred receiving other types of information, such as dietary guidelines and how to manage physical pain, rather than how to change his behaviour.

Nurse as trainer. In general, the participants that were interviewed were very positive about the deployment of specialised rheumatology nurses as trainers. Some participants found it convenient that their trainer was a nurse, and some had previously been in consultation with the nurse.

Also with the help of [the trainer], who can offer the necessary support and motivation, who can sometimes help you get a grip on situations in which you get stranded, financially as well as physically. This may not be dealt with in depth during the course, but at least it is clear where you can turn to for further support (P14, D, male, 55y, RA).

Some participants had difficulties understanding parts of the training. One of the interviewees reported that her trainer did not sufficiently master the content of the training to make everything understandable for all participants.

A lot of people did not understand that pyramid ... She [the trainer] actually had some trouble taking advantage of it. The best thing really was to read it carefully oneself. But still, many took it in a different way. (P23, A, female, 46y, RA)

Although some participants initially had negative comments about their trainer, they subsequently showed a great deal of understanding and defended their trainer. For example, some participants defended their trainer by saying that she had given the programme for the first time or that she had to follow a schedule. In general, however, the participants felt that their trainer gave very good explanations. Other positive points mentioned were that the trainer was a good listener, empathic and offered personal attention, for example:

And if one out of five did not understand it, she [the trainer] tried to explain it in a different way. It all really went very well. (P13, D, female, 70y, SA)

But [the trainer] is just a wonderful, wonderful woman. She really does a great job. Yes, she did really well. Calm, with a laugh, really – and that is how it should be. (P22, A, female, 64y, RA)

Personal fit of the person-focused approach. As stated above, the person-focused approach was at the heart of the programme. This implies that the content of the programme focused on becoming aware of personal goals and practising several goal management strategies in contrast to a disease-focused approach. The majority of participants evaluated the approach positively and reported a positive influence as a result of the training. There were also signals that the training did not meet the expectations of all participants. For instance, nine participants had expected to passively receive practical and medical information during the training. They apparently were comfortable relying on their health providers and preferred to give responsibility to their rheumatologist, the trainer of the programme or the developers of the training. It became evident that most of them were satisfied with the content and the form of the training afterwards, but one would still have preferred to receive clear instructions (e.g. do's and don'ts) instead of working with personal goals and priorities.

I have learned certain things, but only in a general sense; nothing was specifically tailored for arthritis. I found that somewhat disappointing ... I would have liked to have certain handles that enable me to better deal with it ... I expected to be told specific things to do and not to do with regard to this disease ... Do I dress warmly or rather not? Should I go biking or rather avoid movement? (P6, B, male, 62y, Po)

The social mechanisms

The third key component that arose from the interviews concerned the social processes that took place in the groups, including: *facilitating group processes* and *interpersonal processes*. Facilitating group processes were perceived to increase the effect of the intervention; including *peer support* and *bonding*. Also named were several interpersonal processes that took place during participation in the intervention, including: *social comparison* with other participants and *modelling*.

Facilitating group processes. All participants perceived the *contact with peer participants* as of great value. Tips and tricks to deal with arthritis were exchanged in the group. The group also provided help to its members for dealing with difficult exercises and encouragement to perform alternative or new behaviours.

'And when you are part of a group, you really have to show results: then there is that threshold you are pushed over in order to develop an initiative and bring it to an end' (P14, D, male, 55y, RA).

Most participants described the group as a safe place to open up personally and experienced a strong *mutual bond*. Compassion and support were provided within the group and participants understood each other's situation as they could often identify with each other. 'There you could also just cry, which was seen as normal. There was

no judgment about it. There we actually heard others say, 'Oh, we too recognize [what you are going through].' It really felt like being recognized' (P24, A, female, 36y, RA). Identifying with and receiving compassion and support from the other group members was an essential premise for sharing personal experiences, as the following quote illustrates.

In the beginning, [the group was] very scary, because I am really not a person who speaks well in groups, and my attitude is like: just let me be. But as we progressed, it went better, and you actually allowed yourself to become more open. (P3, A, female, 41y, RA)

In line with this, we found a reluctance to share personal experiences in one group due to the inconsistent attendance of participants.

Because the group was small and we only saw each other six times, usually with a few new participants, this made me somewhat cautious. I know it can work, but such a degree of familiarity and trust is not easily reached. (P20, B, female, 55y, RA)

Interpersonal processes. Social comparison was an important topic on a personal level. Most participants could identify with some of the others and valued the experienced heterogeneous composition of the group. A minority of the participants could not identify with the others, as they perceived differences between themselves and the majority of the group with regard to their phase of life, experience or other limitations. For some of these people, it was difficult to fully participate.

I still hoped, and I actually still hope now, that I will overcome [the rheumatism], while the whole [programme] was focused on the fact that one has arthritis and has to accept it and learn how to handle it. In that respect, I was an exception. I also think that I was the one who had the fewest physical problems. (P6, B, male, 62y, Po)

However, most participants highly valued their group and its heterogeneity.

'Of course, I cannot compare myself with their situation, because they all have a job or do volunteer work ... But it's really nice that the group is so mixed, because you can see what the future might bring' (P8, B, female, 24y, RA).

Participants compared themselves with others regarding severity of arthritis, extent of limitations and level of adaptation. This could be confronting for the person who felt he or she was the worse for the comparison. The following testimony shows that a participant also tried to see the positive side of this topic.

You also become aware of your ranking in, let's say, the severity of the arthritis, which was a picture you did not see for yourself. You usually see [your arthritis] more optimistically than it perhaps is in reality ... It is good for oneself to know how severe it really is or how much discomfort one has in comparison to someone else ... You then recognize a lot of things ... which is more like a reassurance. (P15, C, male, 60y, SA)

On the other hand, participants with the severest arthritis were often seen as the most experienced by other participants, and some functioned as *role models*.

There are also people who have a much worse degree [of arthritis] than you, who have been ill all their lives and are bound to a wheelchair. They have an advantage of a kind, since they know how it all is. (P14, D, male, 55y, RA)

Fidelity

The second research question covered the evaluation of the execution of the intervention, and the trainer is central to this discussion. The question addressed whether the trainers followed the protocol, to what extent they were able to create the intended atmosphere during the meetings, whether they followed the collaborative approach, and their skills in psychological communication. Several psychological communication skills were seen as relevant for creating a safe atmosphere and supporting a collaborative atmosphere. The atmosphere and trainer skills are presented together, as they mutually affected each other, and were often linked in the recordings.

Overall, the meetings recordings indicated that the adherence to the protocol was very high and all the different parts were covered in the meetings as scheduled. It seemed the trainers were able to create an atmosphere in which participants felt safe to talk about personal experiences and to attempt new behaviours. Generally, participants appeared to listen to each other during meetings and share different opinions. The recordings of meetings also revealed that the trainers differed in the degree to which they were able to abstain from offering suggestions for participants' behaviour (i.e. the expert role). Some trainers seemed to have difficulties with assuming a coaching role, which emphasised the participants' own responsibility for managing their arthritis. In agreement with this observation, differences with regard to the psychological communication skills of the trainers were also found.

Adherence to the protocol

All trainers were able to give direct instructions and maintain the meetings' structure. In general the four trainers followed the manual during the meetings, and the content of the manual was presented in the correct sequence. Once a trainer unintentionally skipped a part of a meeting's content, but soon realised this oversight and covered the missed part later in the meeting. In general, the exercises were explained well, and some trainers provided extra examples to help participants understand the material.

Person-focused approach, atmosphere and trainer skills

The trainers seemed to approach the participants with respect, interest, patience and understanding. The trainers praised participants for their efforts and appeared interested in the personal experiences of the participants, as the following fragment shows.

Trainer: 'One thing I would still like to know is what it meant to you [not to reach the goal you had established for yourself].' Participant: 'Well, I have mixed feelings about it. On the one hand ... [elaborates on those feelings.]'

Trainers appeared to give participants the feeling that they were taken seriously by expressing understanding for the participants' situation, giving adequate time to everyone to relate their personal experiences, and offering encouragement. In the following

fragment, the trainer showed interest and understanding by using reflective listening to stimulate the participant to elaborate on her feelings and experience.

[Participant talks about experiencing increasing pressure at work, and then becomes emotional.] Trainer: 'I see that it really affects you a lot. You find it quite annoying.' [Participant elaborates more about what disturbs her most about the situation.]

All four trainers appeared to divide their attention and interest among the participants and continually try to involve all of them. Nevertheless, recordings of meetings showed considerable differences between the levels of the four trainers with regard to psychological communication skills. Two of the trainers seemed to have some difficulties asking open-ended questions and leaving room for participants to talk, what appeared to result in participants being less motivated to disclose themselves. These conversations became unidirectional through the use of many closed questions. The use of closed questions and giving advice (or filling in for participants) undermined the collaborative approach. For example, during an activity, one trainer seemed to impose her own opinion on a participant who was hesitating to complete a personal response to an exercise question. This trainer did not ask open questions, but instead said things like: 'I suggest you do this' and 'I think that this for you is [the activity you need to fill in the exercise with]'. In response, the participant was observed as occasionally interjecting: 'Yes, yes'. Once the participant agreed with her, the trainer changed the topic. In contrast, the trainer in the conversation below stimulated a participant to formulate her own solution by asking an open-ended question.

[The threatened goal of a participant has been discussed extensively and the problem is made more concrete. Multiple solutions are put forward by the group and trainer.] Participant: 'I'm going to put it to work.' Trainer: 'How can we elaborate on that? (...) When you say, 'I'm going to work on the threatened activity?'' Participant: 'I ... uh, I actually know that I can call the President and say I want to talk with him.'

One of the trainers sounded occasionally impatient and interrupted a participant to impose her own answer. Recordings revealed that some trainers possibly had difficulties with silences, for example, when participants did not respond immediately to a question. In order to avoid silences, often a closed question was asked successively probably in order to quickly receive a response. For example, one trainer actually answered her own question that she posed to a participant, preventing the participant the time needed to discover her own solution:

Trainer: 'And have you considered a different arrangement for walks every week?' Participant [hesitantly]: 'Yes, I have indeed ...' Trainer [interrupts]: 'Yes, as it was (walks) for three days in a row, so probably it is better to change the arrangement?'

In contrast, two of the four trainers appeared to master the psychological communication skills (e.g. asking open-ended questions, continual questioning/supplementary questions, summarising, giving time/allowing for silence). Moreover, these trainers also encouraged participants to try new behaviours to realise set goals. The following fragment from an initial meeting shows how the trainer, by asking open-ended questions, was able to stimulate a participant to open up.

Trainer: 'What do you (Participant X) think of the way in which they deal with things in the story?' Participant X: 'I recognize a lot in it. I too have the greatest difficulty in talking about it with others. (...) In my family, I sometimes feel like they do not want to hear it, about me being ill. (...) That they do not like me to talk about it sometimes – that is what I feel.'

Discussion

The aim of this study was to evaluate a goal management programme from the perspective of the participants and to assess the fidelity of the intervention. With regard to the first research aim, three key components for the effect of the programme from the perspective of participants became evident: the content of the programme, the person-focused approach and the social mechanisms of the programme. Firstly, the component *content* included (1) writing exercises, role models and mental simulation that led to raised awareness of one's own behaviour, personal goals, and possibilities and limitations caused by arthritis; and (2) the personal trajectory and graphic figures that led to a (intention to) change in goal management behaviour, including using new goal management strategies and clearly stating one's own boundaries and limitations. Secondly, the component *person-focused approach* covered the role of nurses as trainers and the personal fit of the person-focused approach. Thirdly, the component *social mechanisms* included (1) facilitating group processes, including peer support and bonding; and (2) the interpersonal processes, including social comparison and modelling. With regard to the second research question about the fidelity of the intervention, adherence to the protocol by the trainers was high. The trainers differed in the degree to which they were able to fully apply the intended coaching and supporting approach to participants. Differences were also found with regard to the psychological communication skills of the trainers.

The goal management programme was developed to help participants to become aware of their own goals and preferred reactions to goal blockage, followed by learning other goal management strategies and practising these new strategies during the personal trajectory (Arends et al., 2013a). In fact, the effective components of the programme as experienced by the participants in this study correspond to these programme aims. Generally, all components of the programme and specific exercises were highly valued, although participants' individual preferences differed considerably. This finding advocates the use of various components (e.g. use of role models, writing exercises, and a combination of group training and an individual trajectory) to create an intervention that is attractive for a broad audience. The use of several behaviour change techniques is also supported by recent studies showing amplifying effects of combinations of behaviour change techniques (Dusseldorp, van Genugten, van Buure, Verheijden, & van Empelen, 2013; Michie, Abraham, Whittington, McAteer, & Gupta, 2009).

Some of our findings were confirmed in previous studies, for example, the sharing of experiences in group interventions and the stimulating effect of the group can make participants feel understood, increase self-efficacy and foster changes in self-management behaviour (Barlow, Bancroft, & Turner, 2005; Marks & Allegrante, 2005). The majority of the interviewees in the present study spoke very positively about their group experience. The diversity of participants in disease duration, age, type of arthritis and level of adaptation also promoted upwards and downwards social comparison (Arigo, Suls, & Smyth, 2014; Buunk, Collins, Taylor, Van Yperen, & Dakof, 1990).

With regard to the second key component, the person-focused approach, most participants were satisfied with the deployment of nurses as trainers. Strengthening the partnership between patient and health professional was one of the main reasons for this approach. Participants' experiences confirmed this intent, as the contact with the nurse during the programme was assessed as convenient and said to lower the threshold for subsequent consultations. Furthermore, the results indicated that not all participants were prepared for the intended collaborative approach. A substantial number of the interviewed participants had expected to receive practical and medical information although the recruitment information highlighted the active role of participants. In hindsight, this misunderstanding might have been anticipated for a number of reasons. Firstly, the structural features of the health care organisations involved were not necessarily prepared or equipped for self-management and person-centred care. Secondly, there was no specific focus on self-management support in the clinics where the intervention was given, nor any recent history of other programmes with similar aims. Underneath this is the culture in which health care providers are seen as experts, while patients are not addressed as experts in self-management. Although the majority of participants was satisfied with the content of the programme and its emphasis on personal responsibility afterwards, a few would have preferred more directive support of care providers. This latter theme can be related to the passivity of participants or a need for medical paternalism as found in other studies (Drolet & White, 2012). Some participants seemed to lack the self-confidence that they needed to rely on their own judgement in daily life self-management. In line with the above-mentioned culture, one participant directly indicated a preference for medical paternalism, similar to the study of Rogers, Kennedy, Nelson, and Robinson (2005). These findings highlight that matching the need, stage of change and experience with self-management of an individual patient is necessary in order to add value for the individual (Lawn, McMillan, & Pulvirenti, 2011; Lawn & Schoo, 2010).

As the current intervention is aimed at alleviating the impact a chronic disease can have on the medical, social and psychological domains from the patient's perspective, it is also a relatively new approach for health care providers. With regard to the second aim of the study, which was the fidelity of the intervention, the discrepancy between the traditional medical approach and the collaborative approach of the intervention became visible. The results indicate that health care providers might need more training and assistance to fully enable the intended collaborative approach. The recordings of the meetings suggested that some trainers found it difficult not to be suggestive and directive. This is in line with previous research that showed that sometimes, unintentionally, nurses' language and efforts to be helpful and responsive to patients can impair patients' independence and engagement (Lawn, Delany, Sweet, Battersby, & Skinner, 2014). Substantial efforts were made in the supervision during the course of the study to support the trainers to adopt a non-directive attitude and improve their psychological communication skills. In retrospect, in addition to specific intervention-related knowledge and skills, the initial training for the nurses should have included general psychological communication skills, such as asking open-ended questions and using silences.

Both trainers and participants might need more time to adjust to this different approach and more support to understand its implications for their roles and responsibilities in the management of a chronic disease. Moreover, before a care system for chronic conditions can truly become person-centred, effective and efficient, the patient,

health professionals and health service all have to assume new roles (Health Foundation, 2014; Holman & Lorig, 2004).

The strength of this study is its use of a mixed-methods design with information from the various sources, enabling the three functions of triangulation mentioned by Treharne and Riggs (2014): exploring convergences, complementarities and dissonances. The meeting recordings proved useful in revealing dissonant information that was not found in the interviews. In addition, data was available from all sites, adding to the validity of findings and the quality of answers to the research aims.

This study has clear implications both for the improvement of the current intervention as well as for developers of self-management programmes. Firstly, the study has provided insights into the components that participants consider key and the ingredients of the intervention that were supportive for these key components. These insights can further inform intervention development and the application of effective behaviour change techniques and their operationalisation (Michie et al., 2008). Also, it has become clear that deploying nurses for this type of training requires extended training and support in self-management and a person-centred approach before the nurses are fully adept in leading groups of patients (Lake & Staiger, 2010; Lawn et al., 2014).

Furthermore, this analysis provides insight into experiences of participants with regard to group processes. The participants of *Right On Target* evaluated the interactive group meetings as a highly effective key component. Several processes that can occur in groups were considered important, which can inform developers and facilitators of similar interventions. Some participants foresaw difficulties in sustaining the behavioural changes achieved in the training. Barlow et al. (2005) suggest a buddy system for enhancing the maintenance of behavioural changes post-intervention, which might be a feasible and accessible addition to this type of intervention. Such additions could be particularly useful for interventions aimed at strengthening empowerment and self-reliance of patients with a chronic disease, as patients' daily challenges mostly occur outside of the health care system.

Some limitations of this study have to be discussed in addition to its previously mentioned strengths. Firstly, only participants who attended at least four meetings were interviewed. This raises the potential for sampling bias due to potentially different experiences and views of non-completers. Therefore, future research might also focus on non-completers and explore reasons for their dropping out. Secondly, the choice of the mixed-methods design required working with clearly defined research aims; therefore, in-depth analysis of emerging themes outside the research aims was not appropriate. Thirdly, although participants and trainers evaluated the goal management training as effective and useful, a study on the effect should prove this. The current analysis of key components, facilitators and hindrances to the intervention would help the interpretation of future findings on the effect of the intervention.

A few previous comparable studies provided useful information on the patient perspective (Barlow et al., 2005; Dures et al., 2012). The present study has added the use of mixed-methods. Little has been written about how to design and conduct a process evaluation (Moore et al., 2014), therefore, despite its limitations, the current study can be seen as an example for multi-method based process evaluations.

Conclusions

This study from a patient-perspective evaluated a holistic goal management intervention intended to support people with polyarthritis to cope with their disease and its consequences. One methodological implication of this study is that it showed how data collected with multiple sources enables triangulation which, in turn, provides value when evaluating intervention processes. In addition, participants identified key components of the intervention's design and content that can inform future intervention development. Our findings showed that the content, the person-focused approach and the social mechanisms were seen as key components of the programme by participants. The trainers had a vital role in facilitating the open and safe atmosphere that helped participants to share experiences and try out new behaviours.

Self-management is an ongoing process in which health care providers are not consistently involved. Therefore, patients should be confident enough to rely on their own judgement and need to learn the necessary skills to do so. The goal management programme is intended to stimulate self-reliance and empowerment of participants to improve their adaptation and well-being. This study showed that both participants and health professionals are not always fully prepared for nor at ease with these new roles. This observation might be applicable for all patients with chronic conditions, in the same way that the principles underlying the goal management intervention are generally applicable for coping with a chronic disease. As patients are confronted with the disease for the rest of their lives, they need to be able to cope with the consequences and not rely on health professionals for all their daily decisions. In that light, our work shows that while the new role as expert can be challenging, most participants were ready for it and just needed some guidance, tools and support.

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