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Views on Exercise Maintenance: Variations Among Patients With Rheumatoid Arthritis

Emma Swärdh, Gabriele Biguet, Christina H Opava

Background and Purpose. Individuals with rheumatoid arthritis (RA) often have to make changes in exercise behavior in order to gain and sustain health benefits. The purpose of this study was to explore and describe ways of understanding exercise maintenance among individuals with RA who had already started to exercise.

Participants. Fourteen women and 4 men with RA of at least 2 years’ duration, selected from 4 hospitals or primary health care physical therapy clinics, participated. They had exercised regularly at least twice weekly during the previous 2 months with various levels of support from a physical therapist, and they had attempted to exercise without support outside of the health care environment during the previous year.

Method. A phenomenographic approach was used to analyze semistructured interviews. A pattern of categories of descriptions was constructed based on the participants’ conceptions and ways of understanding the phenomenon of exercise maintenance.

Results. Five categories were identified: “external control,” “sticks and carrots,” “a joint venture,” “the easy way,” and “on one’s own terms.” The categories became clear by elucidating 2 aspects related to exercise maintenance: (1) the way the participants talked about and experienced the type of support needed and (2) personal factors.

Discussion and Conclusion. The results highlight the importance of finding the proper context and support for each patient’s needs. Furthermore, preparing for exercise maintenance by strengthening the patient’s beliefs in his or her ability to exercise in different settings, by discussing pros and cons of exercise, and by exploiting the patient’s ability to adapt and continue exercise outside of the health care environment might be valuable.
Exercise Maintenance in Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic, systemic inflammatory disease characterized by symmetric polyarticular pain and swelling, malaise, and fatigue. It has a prevalence of 0.5% to 1% and is twice as common among women as among men, and the median age at onset is 55 years. Compared with the general population, people with RA have an increased risk for early death, mainly from cardiovascular disease. Unfortunately, physical inactivity remains common, with almost 50% of patients with RA failing to meet recommendations for healthy physical activity. Exercise, a planned and structured subset of physical activity performed consistently and repetitively with the intention to obtain some valued outcome, is an important element in the total management of RA. Most studies that investigate the safety and benefit of exercise in RA have been performed in clinical environments, but some studies have shown that home-based exercise with minimal professional supervision is effective. However, lack of adherence to recommended regimens often limits the effectiveness of home-based exercise programs, and 30% of patients with RA have been found not to favor performing regular home exercises for managing symptoms.

The term “health behavior” refers to actions of individuals and groups, personal attributes (eg, beliefs, expectations, and values), and personality characteristics and habits that relate to health. Exercise is a complex health behavior. Physical therapists thus need to recognize and understand that no single factor explains exercise behavior, but that different combinations of factors are influential in different ways and at different times. Some critical factors highlighted in reviews on exercise behavior in young adults, older adults, and patients with arthritis are the role of the health care providers, patients’ attitudes, past exercise participation, and perceived benefits. Additional factors that might be helpful to identify are social support, self-efficacy, and perceived health. Many individuals drop out of exercise programs, and it has been suggested that those who successfully change behavior do not necessarily maintain the new behavior. Considering this, it is emphasized that behavioral maintenance strategies for physical activity may differ from strategies for adoption. Research on different population subgroups such as patients with fibromyalgia, patients with coronary heart disease, and women who are healthy indicates that stress, pain, disability, social support, self-efficacy, and time are associated with physical activity maintenance. It has been suggested that maintenance should be understood from a combination of psychological, social-environmental, demographic, physiologic, health status, and physical activity variables, but little is yet known about exercise maintenance in patients with RA.

Previous research on physical activity and exercise has been based mainly on assumptions related to work physiology. However, during the past decade, the importance of integrating theory from other fields has received greater focus. Several behavioral theories and models have been used to understand factors associated with behavioral change such as physical activity and exercise. It may be questioned, however, whether these generic models are sufficient and whether they contain the correct combinations of factors determining physical activity and exercise behavior in people with a disability such as RA. More basic empirical behavioral research, using both deductive and inductive procedures, has been recommended to increase our understanding of why people do or do not engage in physical activity and exercise.

To improve health care and to develop any discipline, it is crucial to identify different ways in which individuals understand and experience phenomena. Qualitative methods may offer such in-depth insights into individuals’ experience and perceptions. Some studies using qualitative methods have focused on acceptability of and motivation to exercise, and overcoming obstacles to behavior change in relation to physical activity and exercise in different chronic diseases. However, qualitative studies of perspectives of patients with RA on physical activity and exercise are still scarce and have focused on attitudes to physical activity, factors perceived to influence exercise, and perceptions related to physical activity in everyday life. Furthermore, to our knowledge, no qualitative study has focused specifically on the phenomenon of “exercise maintenance” in patients with RA, with “exercise” defined as planned and structured activities performed at least twice a week and for 30 minutes at a time among those who need to continue ongoing exercise. In the present study, “maintenance” was pragmatically conceptualized as a general term for continuing regular exercise behavior. The aim of this study, therefore, was to explore and describe ways of understanding exercise maintenance among individuals with RA who have already started to exercise.

Method
Phenomenography as a research approach was developed in an attempt to formulate research questions about learning and understanding in an educational environment. It thus might be a valuable tool for identifying elements related to the physical therapist’s educational role.
The method is based on the assumption that there is a limited number of qualitatively different ways of experiencing, understanding, and conceptualizing a phenomenon, such as exercise maintenance.

Understanding and experience as conceptions were the focus of interest in the present study. A conception is the basic unit of description and is generally accessed through language. Conceptions are “the by-products of our thoughts, education, experience, culture, history, and the ideals and values that society insists on.” Furthermore, conceptions are considered fundamental to the way in which people act, form beliefs, and experience phenomena such as exercise maintenance and the way in which people explain to themselves and others (eg, physical therapists, other health care professionals) what goes on around them.

Descriptions of the differences and similarities in understanding a phenomenon such as exercise maintenance are central to the phenomenographic approach and create a rich understanding among individuals with RA at this particular point in time. In the present study, the outcome space was a representation of exercise maintenance, just as the categories of descriptions are representative of conceptions. The structure of the outcome space often can be hierarchical, but it does not always need to take this form.

The final outcome space in the present study, therefore, reflected both the data and the researchers’ judgment in interpreting the data.

Phenomenography should not be confused with phenomenology, even though they both aim to reveal human experience and awareness as an object of research. While both traditions seek to describe the world as people experience and explain it, phenomenography is less interested in individual experience than it is in emphasizing collective meaning. Where the phenomenologist describes how things really are according to a first-order perspective, in phenomenography researchers describe peoples’ experiences and understanding, through the eyes of another, by stepping back from their own experience and observing from the outside to get a second-order perspective. Furthermore, the phenomenographic approach aims to explore the range of meanings within a sample group, and this means that data from one participant cannot be understood in isolation from data from other participants.

Participants
Criteria for inclusion in the study were: age above 18 years, a diagnosis of RA confirmed at least 2 years previously, ongoing physical therapy intervention, and performance of planned regular exercise during the previous 2 months. Experience of regular exercise with support from a physical therapist as well as attempts to perform regular exercise without support, outside of the health care environment, during the past year also were required. In addition, the participants should not have had obvious difficulties with the Swedish language. Fulfillment of the exercise criteria was determined by each participant’s physical therapist and confirmed by the interviewer (ES) before the interviews were carried out.

To ensure a wide variety of conceptions by capturing as many aspects as possible of the phenomenon under study, patients fulfilling the above criteria were chosen purposefully from 4 hospitals or primary health care physical therapy clinics. The participants represented both sexes, different ages, and a variation in disease duration, estimated activity limitations according to the Health Assessment Questionnaire, occupational and family status, and exercise frequency as well as experience of exercise in different settings within and outside of the health care environment (Table). The sample was chosen for heterogeneity rather than for representativity in terms of distribution along demographic lines. The participant sampling and data collection through interviews continued until no new aspects of the phenomenon under study emerged and the data were replaced only by new data with the same meaning. Satisfactory variation seemed to be achieved with the inclusion of 18 participants. All participants gave written informed consent before participating.
Data Collection

The most common method of gathering data in phenomenography is through individual, semistructured interviews. An interview guide often comprises a few entry questions, and the ensuing dialogue varies from participant to participant. The present interview guide covered actual exercise behavior; motives and benefits; facilitators of and barriers to exercise maintenance in the clinic and at home; positive and negative experiences of exercise maintenance at home, in the community, and in clinical settings; and exercise maintenance with and without support from a physical therapist (Fig. 1). Our interview strategy was to capture as wide a variation of conceptions of the phenomenon of exercise maintenance as possible. We, therefore, focused on experience of exercise maintenance with support from a physical therapist versus exercise without support outside of the health care environment. Follow-up questions were adjusted to each participant’s responses and varied slightly for each participant. To avoid the risk of the interviewer ending up confirming her own frames of reference or when descriptions were unclear, 3 probing strategies were used during the interviews: repetition, requests for clarification, and requests for confirmation. The interviews lasted 25 to 75 minutes and were held at the clinics, except for 2 interviews at the participants’ workplaces. The interviewer was a physical therapist with experience in rheumatology, but with no relationship to the participants. Before the interviews, simple questionnaires on demographic and background data were collected by the interviewer for descriptive purposes. The interviews were tape-recorded and transcribed verbatim by the interviewer before the analysis was carried out.

Data Analysis

The analysis of phenomenographic studies can be carried out in different ways, even though the structural aspects of the phenomenon studied are essential. The present data analysis was influenced by that of Lundborg et al. The transcribed interviews were read carefully by one of the researchers (ES) to familiarize herself with the material and to get a sense of the whole. Each interview then was analyzed separately by one of the researchers (ES). A second researcher (GB) reanalyzed 9 of the 18 interviews. During the first steps of the analysis, similar aspects related to exercise maintenance appeared to be important to all of the participants. These aspects were

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*a At least 30 minutes per session.*
compared several times and discussed by 2 of the researchers (ES, GB), and consensus was reached for 2 distinct aspects that were dominant in all of the interviews. By identifying and marking these 2 different aspects, a range of conceptions related to them emerged in each interview. All the conceptions then were compared among all of the interviews to find variation or agreement. The conceptions thus represented a basis for the descriptions of each interviewee’s predominant way of understanding exercise maintenance. These understandings were then compared in search of similarities and differences among all interviews. A preliminary pattern of categories of description then was constructed based on the different understandings. No predetermined categories of descriptions were used.

Two of the researchers (ES, GB) discussed and compared the emerging categories of descriptions several times with the content of the original interviews. Several revisions were made before the researchers came to a consensus on the final categories of descriptions. The essence of the similarities in conceptions within each category of description was described. Representative quotes from the interviews, translated from Swedish to English by a professional translator, were chosen to illuminate the main content of the final categories of descriptions. Finally, the structural relationship of the categories of descriptions—the outcome space—was established, interpreted, and reflected upon by the researchers.

**Results**

Five qualitatively different categories of descriptions regarding exercise maintenance were identified: “external control,” “sticks and carrots,” “a joint venture,” “the easy way,” and “on one’s own terms.” The differences in conceptions among the categories, as well as the similarities within the categories, became clear by elucidating 2 aspects related to exercise maintenance: (1) the way the participants talked about and experienced the type of support needed and (2) personal factors. We interpreted the outcome space (ie, the structural relationship of the categories) as a continuum of resources: the setting, the time, and the support needed from a physical therapist (Fig. 2). In general, the participants referred to planned and structured exercise such as walking, bicycling, swimming, aquatic exercise, tennis, dancing, low-impact aerobics, weight training, or Nordic walking, as well as to home-based exercise programs. Perceived barriers such as pain, fatigue, lack of time, costs, and cold climate for performing regular exercise were expressed. These barriers, however, did not differ among the categories. In what follows, the 5 categories are described in detail and are illuminated with direct quotations from the participants’ interviews.

**External Control**

Exercise maintenance calls for external control, monitoring, and support as well as for organized exercise, all elements that a clinical setting can offer. Due to lack of discipline, however, exercise is understood as something delivered by a physical therapist, and the physical therapist is someone to rely on, possessing high competence and taking care of the disease symptoms properly. The feelings of safety, of having someone to turn to and to be connected with, are important considerations while exercising. The physical therapist’s role is to note improvements or deteriorations and thus to instruct and adjust the exercise.

Well, she (the physical therapist) knows what movements we should be doing . . . she can see we do it right. (Participant 13)

It’s the fact that she does it with us that makes you try your hardest. She really has her beady eyes on us! (Participant 5)

It’s security, that you can always ask, or that she (the physical therapist) can see some improvement, too, hopefully. (Participant 12)

You’ll be informed and guided, so you perform the things right. Well, it’s the competence; you have to trust them, so to speak. (Participant 16)

1. Describe the importance exercise has for you.
2. Are you satisfied with the amount of exercise you’re doing just now?
3. Describe for me a really good exercise session you’ve had.
4. Can you describe a less good exercise session you’ve had?
5. Tell me about your experience of exercise maintenance led by a physical therapist.
6. Tell me about your experience of exercise maintenance on your own without direct support from a physical therapist and outside of the health care environment.
7. What’s it like to end an exercise period with a physical therapist and the actual decision to maintain exercise on your own?
8. Describe what makes it easier, and what makes it more difficult, to exercise on your own compared with having support from a physical therapist and what your experience is here.
9. Can you say anything about what you consider is useful and good exercise for a person with rheumatoid arthritis and in what form it should be done?
10. What do you think your continued regular exercise behavior is going to look like in the future?
setting. Home exercise programs exist, but they are not performed regularly and are seen as rather boring and difficult to prioritize.

Problem is, I’m kind of terrifically undisciplined at home. So you decide to take time and do it, but something always comes in between. (Participant 5)

To be honest, I’m rather careless about it. The rubber strap hangs on the stair rail . . . it’s just a matter of getting down to it . . . you forget. (Participant 13)

It’s just the motivation. There’s always a heap of things to do instead of this. (Participant 16)

To get external support, it is necessary to wait for the next supervised and organized exercise period unless symptoms increase, which then calls for an earlier appointment with a physical therapist.

Now, I’ll have to sit and wait till I get worse so I can start training again. See, you have to wait till you’re worse and so on, and if you get better, you have to have a new referral. This is how it’ll be, back and forth like this. (Participant 5)

Then she (the physical therapist) urged me to start training again on my own at a gym . . . but I thought, they don’t think I’ll go. Her hope of getting me transferred to some gym, it didn’t work. There’s some kind of resistance in me. (Participant 12)

**Sticks and Carrots**

Support and guidance facilitate exercise maintenance, but they demand relating to organizational aspects of exercise sessions, such as making agreements, and are perceived as being of even greater importance. Even the risk of being discharged from the exercise group and having it replaced with “exercise homework” can be experienced as positive demands for exercise behavior.

That you have someone to motivate you . . . “makes this, no . . . you have to” . . . or “you have a place in this group, but you can also be dismissed.” (Participant 4)

I think it’d be enough if the physical therapist told me, “Do this at home for next time.” I’d do it, because then I’d have gotten it as homework. (Participant 9)

It’s better that there are demands, you’re forced . . . that’s how it is for me . . . you’ve fixed a time—that’s when it works. (Participant 4)

The physical therapist’s role is to encourage and motivate during the exercise sessions as well as to instruct and observe, and to adjust the exercise content in order to prevent injuries.

I reckon if you’re in pain, they can see this, they give tips and guidance, do this instead, you can do it like this, or they see if you’re in difficulties. (Participant 11)

Just this help, that you’ve got someone who says, “Now you’ve done this,” and you move on . . . you need encouragement. (Participant 9)

To meet other people with rheumatic diseases and support each other is one reason for preferring exercise in clinical settings. A feeling...
of solidarity with others and discussions on disease-related issues also support a regular exercise behavior.

Perhaps it’s because you depend on being together in a group for it to work . . . this is my contact with other young rheumatics . . . well, we have the disease in common. (Participant 4)

To meet people with the same kind of problem . . . there, you get an understanding. (Participant 11)

Although other types of exercise outside of the health care environment are known, giving up exercise with support from the physical therapist is not an option. This is mainly because of lack of confidence and insecurity in personal ability to find appropriate exercise or to adjust the actual type of exercise.

I work myself up or think that this is going to hurt . . . but I suppose there are also versions that are a bit gentler, that you can begin with. (Participant 4)

It’s tremendously difficult to find groups that are at the level you can manage. You get nervous and think it’s tough. How am I to train now? How can I fix it? Am I going to be able to come back? (Participant 11)

A Joint Venture
Exercise maintenance calls for inspiration regarding exercise variation and shared responsibility for the heavy burdens of the disease and self-management. Thus, exercise maintenance without support is not a matter of course, as support is a self-evident part of a joint venture.

The physical therapist is always a part of the total “exercise package,” including several exercise options and the framing of individualized exercise programs and follow-ups. Collaboration is perceived as essential. You have to . . . vary this training, not just do it at home . . . somehow, you need this psychological push from outside from time to time. (Participant 3)

You simply have to change surroundings, to get away to a different environment even if you’re perhaps doing the same thing. (Participant 3)

If you don’t get a recall appointment . . . then you fall behind . . . we need a stimulus . . . I think we all felt that way . . . so I usually say that you should save one of those appointments for a follow-up. (Participant 6)

Training on your own or with a physical therapist is not an alternative—I usually do both, anyway. (Participant 5)

Giving movement guidance and updating exercise programs also are important aspects of the physical therapist’s role. The therapist often can step aside after a while, when the program has been learned. The therapist then assumes the role of motivator and coach.

The physical therapist doesn’t need to be so wildly active once you’ve got your program, but is available and gives feedback to you when you’ve been at it for a time. (Participant 18)

Exercise led by physical therapists is experienced as more intensive: there is an urge to push oneself harder than when exercising alone. When a clinical period is ended, remaining needs and a feeling of being let down or of being thrown out may be perceived. Despite beliefs in the ability to perform different types of exercise in different contexts—and despite the knowledge, skills, and responsibility needed for doing so—backup and support from the therapist are still needed, and quitting is not voluntary.

Well, sometimes, it’s just that I have to make time and do it, it’s the knife at your own throat, you have to have that. I’ve actually also thought of . . . in the long run . . . reserving time in my diary, then I have that hour to do it at home, so to speak, then it becomes more directed. (Participant 18)

All the time, you have to say “now I must.” I mean, be smart on one’s own . . . It makes a massive demand on you, and you feel your surroundings are making demands. (Participant 6)

Actually, the demands you must make are on yourself . . . knowing that this is useful and the experience of learning when you’ve done it are a satisfaction. (Participant 17)

You have to schedule it, and you have to stick to the time. You have to do it just when you’ve planned to and not put it off at all. (Participant 3)

I have my responsibility but I must be able to get guidance, coaching, or whatever you want to call it. (Participant 6)

The Easy Way
Even though all types of regular exercise could be managed without support from a physical therapist, from time to time there is a desire to enjoy support. The physical therapist can help establish exercise habits and is perceived as a provider of incentives in the form of exercise options and convenience.

It’s much easier if I’m coached by a physical therapist . . . it seems more fun somehow to have someone who’s in charge a bit. (Participant 13)

It’s quite nice to have somewhere to go. (Participant 14)

You get spurred on, a bit pushed, and you can’t cheat either then, as you perhaps do unconsciously otherwise. (Participant 13)

Beliefs in the ability to carry out regular exercise in most contexts, as well as to adapt the level to the course of the disease, are present.

Well, of course, it’s great to get instructions from the physical therapist, who knows the way the joints work and how the body works and what’s right and that you receive directions. And once you’ve got those and have learned them, then you can perform the program by yourself—it’s not exactly necessary that you have a physical therapist once you’ve learned a
Exercise Maintenance in Rheumatoid Arthritis

program. Then, you do it the way it feels fun, feels comfortable. (Participant 7)

When an exercise period in a clinical setting ends, it is natural to keep on exercising. There is enough confidence to continue outside of clinical settings and to concentrate on exercise maintenance. Even though exercise without support is expressed as sufficient, the option of support from a physical therapist is perceived as convenient, pleasant, and positive, and it will not be rejected if offered.

When you’ve gotten going, you know what to do, so it works fine, anyway. (Participant 7)

One’s become so brainwashed about managing on one’s own. So I was quite clear that I would continue managing on my own. (Participant 13)

It’s kind of nice to have someone who tells you (to continue regular exercise) . . . I think it’s nice at the start, but then I think, you can manage it, once you have found the way you should do it. Then, you have to keep going and, really, no one but you yourself can do that. (Participant 14).

On One’s Own Terms

In this category, lack of opportunities to influence organized exercise (eg, scheduling and type) is pointed out as a barrier to exercise in clinical settings, even though the physical therapist is sometimes seen as helpful in creating and updating exercise programs and encouraging a person to continue regular exercise.

Yes, well, it’s first and foremost time pressure. I can train at home as long as anything and take breaks when I want to . . . you can’t do that when you’ve got an appointment with a physical therapist. (Participant 8)

Yes, often you’ve fixed a program, and then you follow this, and then she stands there and makes sure you’re doing it right, gives tips . . . she answers questions. (Participant 8)

A common idea is that knowing how to match the exercise to the course of the disease enhances belief in one’s ability to perform, especially home-based and community-based exercise.

Well, it wasn’t that hard to continue, for you’d learned a good deal of the program . . . then, mainly you could probably change things here and there, adapt. (Participant 10)

Freedom, I can feel myself how my strength is giving out or my body’s saying “no.” The physical therapist can’t know this so exactly. (Participant 10)

An important facilitator of positive exercise behavior is a feeling of being independent and not being a burden on health care.

There are people that need help, but then there are others that don’t need as much help . . . they can try on their own without the feeling of being thrown out. You’ve got to be glad you can manage and are not ill . . . that you can be inspired by it, that, actually, I wasn’t so ill that I needed medical care—no, I can manage on my own. (Participant 8)

A strong feeling of autonomy, that is, not having external demands or pressure on exercise habits and living routines, is essential for the participants. On the contrary, they want to find their own ways and habits because independence is essential.

I’m not one to have everything cut and dried . . . I don’t like being threatened to do something. It doesn’t give you the same result. (Participant 10)

Discussion

The results indicated 5 qualitatively different ways of understanding exercise maintenance in patients with RA who had already started to exercise. The categories clearly show that the physical therapist needs to realize that patients’ understandings differ based on the type of support they need in relation to their own personal factors. Outcome space was interpreted as a continuum with respect to the resources needed from a physical therapist.

The preferred type of support (eg, control, guidance, and collaboration) was an important aspect of various ways of understanding exercise maintenance. This finding is consistent with other studies where social support constituted a powerful factor for,49,50 and a predictor of, exercise behavior.19,20 Support from the physical therapist seemed to be particularly important in the categories “external control,” “sticks and carrots,” and “a joint venture.” Although the differences among them might seem slightly indistinct regarding the preferred type of support, the category “external control” might be characterized by “handing over” oneself and the responsibility for exercise to health care. In contrast, the category “sticks and carrots” could illustrate the notion of gaining positive benefits in guidance and demands from the physical therapist together with extensive social support from other group members.

It is interesting that the sense of being personally involved and responsible evident in the category “a joint venture” did not exclude a need for support from the physical therapist (eg, through shared responsibility). Individuals receiving social, physical, or physiological cues for their behavior—which generate positive consequences—are likely to repeat the behavior under the same or closely related conditions.51 This might be the reason why reinforcement from the physical therapist was so important in these 3 categories, which were generated by conceptions from patients accustomed to supervised exercise.
The specific need for shared responsibility, collaboration, and inspiration, as in the category “a joint venture,” is supported by previous research that identified collaboration as an important aspect of physical therapy.\(^2\)\(^2\)\(^5\)\(^2\) Regular contact during the maintenance phase and feedback sessions after several months are important for physical activity behavior.\(^1\)\(^9\)\(^2\)\(^5\)\(^7\)\(^9\) Other types of preferred support, such as counseling in the category “the easy way” and minor advice in the category “on one’s own terms,” are in line with other studies suggesting that advice from health care professionals is important.\(^4\)\(^0\)\(^5\)\(^3\)\(^7\)\(^9\) The 5 categories clearly show that physical therapists have to be aware of the wide range of understanding that can exist among this patient population. The categories further underscore the importance of health care providers working closely with patients to design physical activity regimens that reflect each patient’s preferences and capabilities.\(^5\)\(^4\)

In this study, the type of support needed was closely related to appraisal of personal factors such as discipline, insecurity, demands, convenience, and autonomy. Lack of discipline and motivation, as in the category “external control,” could be related to self-motivation to exercise, which is associated with exercise behavior.\(^5\)\(^9\)\(^4\) Without motivation and discipline, exercise maintenance might be facilitated only by a controlled context and situation as in a clinical setting. Insecurity, as in the category “sticks and carrots,” might be due to low belief in one’s ability to exercise in different settings, thus relating to self-efficacy—which is important for exercise behavior—\(^2\)\(^0\)\(^1\)—and prediction of its initiation and maintenance.\(^2\)\(^0\)\(^5\)\(^6\)\(^9\)

Unfortunately, this insecurity might, in the long run, be strengthened rather than reduced in a clinical setting, where the context usually persists unchanged. Insight and discipline, as in the category “a joint venture,” are valuable personal factors to exploit. Patients with these conceptions might be those who exercise responsibly as long as they get continuous feedback from a physical therapist. However, would these patients continue if the shared responsibility disappeared, or does the need for support constrain their own personal resources?

Another unclear personal factor is the need for convenience, as in the category “the easy way.” Patients with this conception could be lazy and less responsible, but their behavior might be due to easy access to facilities for vigorous physical activity.\(^5\)\(^7\) Regardless of the reason for their need for convenience, however, patients with conceptions as in the category “the easy way” adapt to prevailing circumstances, and this may be a resource for exercise maintenance outside of the health care environment. There also may be some ambivalence regarding self-management and autonomy, as in the category “on one’s own terms.” The conceptions reflected in this category might reflect much independence regarding exercise behavior but could also reflect a reluctance to cooperate with the physical therapist and health care due to other circumstances.

The present findings related to exercise maintenance agree, in part, with those from previous qualitative studies on exercise adherence in different chronic diseases. Group support, regular monitoring, and supervision, as in the categories “external control,” “sticks and carrots,” and “a joint venture,” also were important for long-term adherence in a group of patients with chronic obstructive pulmonary disease\(^3\)\(^7\) and as motivational factors for exercise in patients with osteoarthritis.\(^5\)\(^6\) Furthermore, active involvement by participants, as in the category “a joint venture,” seemed to be related to greater adherence in patients with osteoarthritis.\(^5\)\(^8\) However, independence and autonomy, as in the category “on one’s own terms,” and the wish to have no external demands or pressure on exercise habits have not been described previously as important for exercise maintenance.

**Clinical Implications**

Of what use are the present findings to physical therapists? It might be particularly important to enhance beliefs in the ability to exercise outside of the health care environment among those with notions of the categories “external control” and “sticks and carrots,” for whom exercise in a clinical setting was preferred and valued. Because self-efficacy can be influenced,\(^5\)\(^6\) physical therapists need to use strategies such as successful performance, role modeling, and verbal persuasion\(^3\)\(^9\) to enhance self-efficacy more systematically in clinical practice in order to prepare patients for exercise in different contexts. Patients with low motivation and lack of discipline, as in the category “external control,” may benefit from a discussion comparing the pros and cons\(^6\)\(^0\) of exercise within and outside of the health care environment. This might raise their general knowledge of exercise, their awareness of the potential satisfaction of adopting self-management strategies, and their willingness to take more active care of their exercise behavior.

Although patients with conceptions as in the category “sticks and carrots” may need social support to continue exercising, their insecurity may be targeted with regimens related to flares and remissions of their disease and training in skills related to different types of exercise in different settings. Patients with conceptions as in the category “a joint venture” clearly seemed to benefit from regular follow-up sessions, but they
might be challenged successfully to continue the exercise behavior for longer periods outside of the health care environment. Furthermore, physical therapists need to take on the challenge of supporting patients to transform their wish for convenience—as in the category “the easy way”—into exploiting their ability to adapt and continue exercise outside of the health care environment rather than just remaining content with their present situation. Autonomy in relation to exercise was valued in the category “on one’s own terms.” The creation of more exercise options and convenient exercise settings and meeting places outside of the health care environment, where individuals with RA can feel secure and not excluded because of their disease, would probably benefit patients with conceptions as in the categories “the easy way” and “on one’s own terms.” It also is important to be more open-minded when discussing exercise maintenance with patients who want to be independent and who possess self-determination such as those with conceptions as in the category “on one’s own terms.”

One may ask whether any of our 5 categories is preferable clinically. In terms of health economics, some might argue that the category “on one’s own terms” is optimal. However, as the participants’ actual exercise intensity was not explicitly elicited in this study, the common clinical question of whether patients actually do continue at adequate exercise levels outside of the clinic reappears. Do patients with a chronic disease such as RA perhaps need regular follow-up appointments separated by long intervals in order to keep up their regular exercise at a healthy level? The physical therapist’s goals, however, should be to pay adequate, but not excessive, attention to personal factors and to discuss exercise maintenance early in the treatment periods with the aim of finding the optimal long-term exercise solution for the patient, the health care system, and society.

**Methodological Considerations**

Our sample was small, with few men and with no participants with severe disability. However, in qualitative studies, sample size is considered less important than the variation in data that the sample generates. The few men mirror the population, and people with severe disability did not match our inclusion criteria, which required attempts to manage exercise outside of the health care environment.

Regarding the issue of trustworthiness, several strategies were used. To ensure that the data were approached from more than one perspective, one researcher was a physical therapist working primarily with rheumatic diseases, and the second researcher was a physical therapist and teacher with extensive experience in psychosomatic diseases and qualitative research. The interviewer was familiar with the population group through prolonged engagement and persistent observation in one of the settings. This was judged useful for interpretation of the findings and is likely to have influenced the outcome of the interviews. For this reason, the second researcher was used as a peer checker, and the research process was peer reviewed by an expert researcher in physical therapy with long-standing experience in rheumatology. The participants had no relationship to the interviewer and were not in positions of dependence. They described the role of the physical therapist as both important and less important, which probably indicates that there was little interviewer bias.

Finding depth in the interviews also is important, and our analysis and understanding indicated that even the shortest interview (25 minutes) yielded sufficient depth in the data. Feedback from the participants was not sought and is not regarded as an appropriate phenomenographic validity check; the aim is to not to capture a particular individual’s understanding, but to capture the range of understanding within a particular group. One important question is whether the full variation of understanding “exercise maintenance” was captured in the categories described. There might have been more categories, but we judged that no new information was revealed during the last 3 interviews, and we, therefore, stopped recruiting participants. This accords with other studies indicating that about 20 participants might be needed to capture saturation, or satisfactory variation, in ways of understanding a phenomenon. A qualitative approach does not attempt to generalize the results to the whole population. Nevertheless, it is likely that the categories described could be identified in other patients with RA who have experience of regular exercise with and without support from a physical therapist.

**Conclusion**

The results give better insight into 5 qualitatively different ways of understanding exercise maintenance in patients with RA. They highlight the importance of finding the proper context and support for each patient’s needs. Furthermore, physical therapists should prepare patients for exercise maintenance by strengthening their beliefs in their own ability to exercise in different settings. Such preparation may include discussions on pros and cons of exercise and exploiting the ability to adapt and continue exercise outside of the health care environment. In addition, questions were raised as to whether any category is preferable for individuals with RA, physical therapists, and society. Different coaching approaches need to be ex-
Exercise Maintenance in Rheumatoid Arthritis

ploried by physical therapists to gain deeper understanding of how to improve patient participation in long-term exercise behavior. For fuller understanding of the phenomenon, it is important to validate the present 5 categories in clinical practice.

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Exercise Maintenance in Rheumatoid Arthritis


Views on Exercise Maintenance: Variations Among Patients With Rheumatoid Arthritis
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Letters to the Editor

Healthy individuals. In fact, greater activation of the platysma muscle in blowing would pull the lip corners laterally, causing less inward movement. In a recent study of healthy individuals, we found the opposite to be the case: blowing produced greater centrally directed movement.

Lastly, we are confused by Halili’s suggestion that the type of movement involved in puckering and blowing actions differs in that puckering involves active movement of the orbicularis oris muscle, whereas blowing involves a holding contraction. First, Halili’s classification of the type of movement in blowing—“the orbicularis oris muscle shortens and the lips protrude”—is confusing because the definition of an isotonic contraction is a contraction in which tension increases and the muscle changes length (eg, movement). The change in length can either be shortening, as in a concentric contraction in which the tension produced exceeds the resistance, or lengthening, as in an eccentric contraction in which the resistance exceeds the tension produced. The movements that we requested patients to demonstrate and the movements that we recorded from start to full excursion of the action were the usual acts of performing puckering and blowing, in which the orbicularis oris muscle shortens and the lips protrude. Given that blowing involves movement of the lips associated with a shortening contraction of the orbicularis oris muscle, we do not find Halili’s second explanation reasonable in understanding the results reported or an acceptable challenge to our interpretation. The statement that, when treating patients with synkinesis, “…synkinesis is more easily integrated…when the primary mover…is in isotonic contraction rather than actually moving” is inaccurate as written and is not congruent with our clinical and research experience with patients with facial movement disorders.

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This letter was posted as a Rapid Response on August 26, 2008, at www.ptjournal.org.

References


Correction


The first sentence of the “Sticks and Carrots” section should state:

Support and guidance facilitate exercise maintenance, but demands relating to organizational aspects of exercise sessions, such as making agreements, are perceived as being of even greater importance.

The Journal regrets the error.