Processes and Interventions

Herrmann Faller

Würzburg

Address for Correspondence:

Prof. Dr. Dr. Herrmann Faller
Head of the Department of Medical Psychology,
Medical Sociology, and Rehabilitation Sciences
University of Würzburg,
97070 Würzburg, Germany

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*Presentation at the 9th World Congress of the *International Society of Physical and Rehabilitation Medicine* (*ISPRM*) 23rd June, 2015 in Berlin

The following section highlights some recent developments in terms of processes and interventions that have taken place in German medical rehabilitation for chronic diseases. It is well known that chronic disorders are not only associated with multiple behavioral risk factors, but also have multiple impacts on patients' functioning. Most importantly, however, the patient is the one who is in charge of treatment, and treatment takes place in patients' everyday life. To take charge of treatment, patients need both knowledge and skills. Medical rehabilitation provides such knowledge and skills to participants and thus empowers them to increase self-management and participation (Faller 2014). To attain these objectives, rehabilitation has to be continuous, comprehensive and interdisciplinary. It spans the disease trajectory from acute care across inpatient medical rehabilitation to aftercare. Moreover, medical rehabilitation comprises multiple interventions addressing multiple targets, performed by a multiprofessional rehabilitation team. Evidence from both systematic reviews and meta-analyses (e.g. Kamper et al. 2015) and qualitative research (e.g. Schwarz et al. 2015; Stamer et al. 2014) suggests that rehabilitation is the more successful, the more comprehensive and interdisciplinary it is.

At the beginning of the process of rehabilitation stands goal setting. Patients set their goals anyway, either implicitly or, much better, explicitly in cooperation with their physician and the team. It depends on the goals chosen what interventions are selected. However, goal attainment has to be continuously updated during the rehabilitation process. Of course, goal setting is informed by the International Classification of Functioning, Disability and Participation (ICF), which differentiates between body functions and structures, activity and participation. However, in medicine, we are used to thinking from the left to the right: Disturbed body functions and structures impair activities, which in turn hamper participation. Conversely, from the patient perspective, participation is of utmost importance when it comes to setting goals. The primary question therefore is what participation goals has the patient? Participation-related goals determine what activities they must be able to perform in order to reach their participative goals. Only in the third place comes the question what functions and structures should be improved to enable them to perform these activities.

To be comprehensive, medical rehabilitation comprises a broad scope of interventions that include, but are not limited to, medical assessment and treatment, physiotherapy, occupational therapy, exercise therapy, patient education, psychological counseling, diet counseling, social counseling, and work-related treatment. In the following, two of these elements, that is, exercise therapy and patient education, will be highlighted briefly. Both types of interventions aim at increasing physically activity and self-management in everyday life. The reasons they were chosen were as follows. They are core elements of medical rehabilitation for chronic diseases; new concepts have been developed and are being implemented currently in the German medical rehabilitation system; and new evidence has been produced by rehabilitation research performed both internationally and in Germany.

Changing one's health behavior may be challenging. However, evidence from systematic reviews suggests that certain self-regulation strategies are particularly effective for achieving this task (Janssen et al. 2013). These include goal setting; action planning, that is, planning what to do; barrier management, that is, anticipation of barriers against these actions and how to overcome them; self-monitoring, that is, monitoring one's success in chancing one's behavior. Programs that contained the provision of these self-regulation skills were more effective than those that did not. Therefore, such skills should be at the mainstay of interventions that aim at changing behavior. Moreover, evidence suggests the superior

effectiveness of patient-centered educational methods (Faller et al. 2009, 2011; Reusch et al. 2011). Thus, modern educational programs address participants' needs, for example when choosing among educational topics, and use participants` previous experience such that they can learn from each other (Farin et al. 2013). Instead of providing goals to them, trainers encourage participants setting their own personal goals. Interactive didactic methods are increasingly employed fostering discussions within the group of participants and, at the same time, reducing the traditional delivery of information by lectures. Doing so may enhance both participation of patients during educational sessions and transfer of change processes into everyday life.

In the following, we present some new concepts that have been evaluated in controlled clinical trials. In these trials, a structured, manualized, integrative and multiprofessional intervention providing both knowledge and skills and using interactive didactic methods was the intervention condition. In contrast, traditional concepts that more or less lacked these features were the control condition. However, the traditional programs are also supposed to be intensive, effective treatments. Thus, only small differences may be expected between the intervention and the control condition. Moreover, both conditions were embedded in the context of medical rehabilitation comprising the scope of treatments as describe above, which further attenuates any between-group effects.

Regarding the development and evaluation of patient education programs promoted by the German Statutory Patient Insurance (Curriculum Gesundheitstraining), pioneering work has addressed the Curriculum Back School. Meng et al. (2009, 2011) manualized the curriculum, which comprises seven units of one hour each. This new back school integrates information provision, exercise treatment, and provision of self-regulation skills. It is based on the biopsychosocial model, replacing the traditional right-or-wrong approach regarding back-related behavior by a patient-centered approach that allows participants to choose physical activities that match their preferences. A multidisciplinary team of physicians, exercise therapists, and psychologists delivers the program. In a randomized controlled trial, it proved superior to a traditional back school regarding better knowledge and self-regulation strategies, less fear avoidance, better coping with pain, more back exercises at home as well as more physical activity after 6 months. However, the effects attenuated after 12 months. Moreover, they were much more pronounced in men than in women.

To increase sustainability, aftercare interventions may be sensible. In a project in obese patients, the intervention condition comprised two sessions providing action planning skills, and 6 telephone calls delivered during a period from the end of inpatient rehabilitation until up to 6 months later (Ströbl et al. 2013). The telephone calls addressed self-monitoring of actions taken, goal attainment, and barrier management. In a randomized controlled study, patients from the intervention condition were more physically active even 12 months after the impatient rehabilitation. The difference between the intervention and the control condition amounted to one additional hour per week at 12 months, which is important regarding the reduction of cardiovascular risk. The effects were evident in both men and women. The aftercare telephone calls took eight minutes as a mean, which summed up to 44 minutes per patient. Thus, an intervention of relatively low intensity produced sustainable effects on health behavior. To cast light on the process of change, we performed path analysis and found evidence suggesting partial mediation. The intervention translated into more action planning at the end of rehab, which in turn increased self-efficacy after 6 months, which resulted in more physical activity after 12 months.

As mentioned above, rehabilitation addresses patients' needs in a comprehensive way, based on a multiprofessional team. This approach may also pose challenges, though. Multiple professions may follow different aims and talk to patients using different languages. The PASTOR program (Semrau et al. 2015) addressed this problem. It aimed at integrating comprehensive interdisciplinary back pain rehabilitation by providing a highly structured manual rendering treatment consistent across multiple professions. PASTOR is a very intensive intervention, comprising 12 treatment days with 48 treatment hours overall, delivered in closed groups. Contents cover education, delivered by a physician; behavioral exercise therapy, including action planning, delivered by a physical therapist; coping with pain, delivered by a psychologist; relaxation training, delivered by a psychologist; and work-related information, delivered by a social worker or a physician. At the core of PASTOR are regular interdisciplinary team meetings. The main objectives of this program included increase of self-management and long-term maintenance of physical activity. In a controlled trial, the PASTOR program proved superior to classical orthopedic rehabilitation even after 12 months regarding more sports activities, better health status, better pain coping, lower pain, higher functional ability, and less sick leave days.

As a final example, the Curriculum Coronary Heart Disease will be presented (Meng et al. 2014). It consists of five units of 45 minutes each. It is delivered by physicians, psychologists and exercise therapists and covers the following contents. 1. Learning about the basics: etiology, symptoms, risk factors, protective factors. 2. Learning about surgical and medical treatments. 3. How to cope with coronary heart disease in everyday life. 4. How to change risk factors, such as physical activity, diet, smoking, stress. 5. How to implement risk-reducing behaviors into everyday life. The manual includes all the material needed to perform the program and is available free of charge in the internet. Examples of the materials included are as follows. 1. A list of risk factors allowing participants to choose those that apply to them. 2. A list allowing them to translate risk factors they wish to address into behaviors they intend to change. 3. Action plans allowing specifying what to do, when to do it, where and with whom. 4. A weekly schedule for self-monitoring one's target behavior and evaluating one's success of changing it. In a controlled trial, this new program proved superior to traditional education regarding more action planning at the end of rehabilitation and, as a trend, more physical activity after 12 months.

To conclude, state-of-the-art medical rehabilitation is continuous, comprehensive and multiprofessional, implying a high need for integration. It should be patient-centered, necessitating a high need for patient participation. It provides skills for implementing behavior change into patients` everyday life, which results in a high need for psychological expertise in professionals, including physicians and physical therapists. Rehabilitation programs that feature these characteristics may be particularly effective producing both better outcomes and higher patient satisfaction.

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