

## FOREWORD

This special issue of the *Journal of Rehabilitation Medicine* contains a series of papers aiming to conceptualize, organize and develop a proposed area of research related to human functioning and rehabilitation. When referring to human functioning, the authors use the term as the World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) (1) describes it. The authors use the ICF as a unifying model to demonstrate its usefulness for integrating diverse aspects of human functioning and rehabilitation research. The special issue includes a conceptual description of the rehabilitation strategy, as well as of the clinical speciality of physical and rehabilitation medicine (PRM). It makes suggestions about how to organize human functioning and rehabilitation research into distinct scientific fields, to build academic training programs, and to foster interdisciplinary university centres and collaboration networks.

Functioning and disability are universal human experiences (2, 3) in which body, behaviour and society are inextricably intertwined (4). Similarly, functioning and disability are neither solely a matter of social construction nor of biological causes of impairment (5). Therefore, the needs and problems of people experiencing or likely to experience disability exceed the boundaries of any single discipline.

With the approval of the ICF by the 54<sup>th</sup> World Health Assembly in 2001 (1) the WHO for the first time provides a universal and globally accepted framework and classification that comprehensively address human experience in relation to functioning and disability (6). The ICF thus provides a promising starting point for the integrative understanding of functioning and disability and the overcoming of Cartesian dualism as well as both sociological and biomedical reductionism (5). It is also a promising starting point for the conceptualization, organization and development of a research area, which is called *human functioning and rehabilitation research* in this special issue.

WHO has recently made a compelling case to develop human functioning and rehabilitation research in its resolution R114 on "Disability, including prevention, management and rehabilitation" adopted in May 2005 by the 58<sup>th</sup> World Health Assembly (7). The resolution states that "about six hundred million people live with physical and mental disabilities of various types" and that there is a "rapid increase in the number of persons with disabilities as a result of population growth, ageing, chronic conditions, malnutrition, war, violence, road-traffic, domestic and occupational injuries and other causes often related to poverty". The resolution also points to the "global magnitude of the health and rehabilitation needs of persons with disabilities and the cost of their exclusion from society". It emphasizes that "people with disabilities are important contributors to society and that allocating resources to their rehabilitation is an investment". It urges member states to take action by broadening their knowledge base and particularly

highlights the "importance of reliable information on various aspects of disability prevention, rehabilitation and care, and the need to invest in health and rehabilitation services required to ensure good quality of life regardless of disability".

Unfortunately, human functioning and rehabilitation is an area where the current research capacity is in large discordance with the acknowledged need. In particular, the discrepancy between the comparatively tiny amounts that are currently invested in research as opposed to what is spent on care is striking (8). In this context, it is important to recall that "today's investments in rehabilitation research are investments in improved rehabilitation care in the future" (8). Both investments are ultimately directed to the same end, to achieve optimal functioning, health and quality of life of people with a health condition.

Therefore, governments and funding agencies, particularly of the western countries, need to increase investment in human functioning and rehabilitation research considerably. This entails governments and funding agencies recognizing human functioning and rehabilitation research as a funding priority in the competition for limited resources. It also requires rehabilitation research to be "up to the challenge". Unfortunately, this is currently not the case (9).

At the core of the difficulty of developing human functioning and rehabilitation research is the lack of a globally agreed conceptualization and organization of human functioning and rehabilitation research (6, 8–10). Starting from the ICF as a unifying model, this special issue aims to contribute to overcoming this shortcoming.

Firstly, an ICF-based conceptual description of rehabilitation as a health strategy (11) broadens the traditional perspective focusing on the biomedical aspects of functioning. It may contribute to the development of a common understanding of rehabilitation across professional and scientific disciplines and an enhanced recognition of rehabilitation through stakeholders, funding agencies and policymakers. It can also serve as a reference for rehabilitation professions. Views on rehabilitation as a strategy to decrease disability are presented. An ICF-based conceptual description of PRM may serve as an example (12).

Secondly, the ICF framework and the conceptual description of rehabilitation as a health strategy are the basis for the organization of human functioning and rehabilitation into distinct scientific fields ranging from the cell to society (13–15). At the core of the proposed organization of human functioning and rehabilitation research is the suggestion to establish the *human functioning sciences and integrative rehabilitation sciences* as basic and applied sciences for rehabilitation from the comprehensive perspective (13–15). The *human functioning sciences* aim to comprehensively understand human functioning and disability as well as seek to identify targets for a broad range of interventions, from products and procedures to policies and laws. The *integrative rehabilitation sciences* study comprehensive interventions that integrate biomedical, personal factors

and environmental approaches suitable to optimize a person's performance in interaction with the environment. *Human functioning sciences and integrative rehabilitation sciences* thus complement the *professional rehabilitation sciences* and the sciences focusing on the biomedical aspects of functioning, the *biomedical rehabilitation sciences and engineering* and the *biosciences in rehabilitation*.

Thirdly, the building of research capacity in these distinct scientific fields depends on the successful development of a respective workforce. Currently, education and training of human functioning and rehabilitation researchers based on the integrative model of functioning are hardly available. It is thus time to introduce innovative educational concepts and training programs (16).

Fourthly, with the increasing recognition of the need for interdisciplinary research, there is the opportunity to initiate the building of interdisciplinary research centres at universities and regional or national collaboration networks (17). Comprehensively understood human functioning and rehabilitation research is ideally positioned to gather scholars from different disciplines around a common theme. Its strong focus on the translation of research into benefits for people's lives also bears an enormous potential for the collaboration of researchers, stakeholders, industry, and services with a common goal.

The papers in this special issue are intended to stimulate and promote discussion regarding the process of developing globally accepted conceptual descriptions of rehabilitation, the organization of human functioning and rehabilitation research into distinct scientific fields, the development of integrative education and training programs, the promotion of human functioning and rehabilitation at universities and beyond, and the building of internationally competitive research institutions dedicated to the comprehensive study of human functioning and disability.

The authors see the development of globally accepted conceptualizations and perspectives for human functioning and rehabilitation research as an iterative process. It is of utmost importance to integrate respective efforts and initiatives from different professions, scientific perspectives, organizations, regions and individuals. We therefore invite readers of the *Journal of Rehabilitation Medicine* to write Letters to the Editor commenting on the papers in this special issue and providing additional insights and suggestions. It is hoped that this discussion, facilitated by the *Journal of Rehabilitation Medicine*, will contribute to the development of human functioning and rehabilitation research and the development of rehabilitation practice. It may ultimately encourage rehabilitation professions and related scientific disciplines "to speak with one voice" and to develop co-operative research agendas.

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