The International Classification of Functioning, Disability and Health and Its Value to Rehabilitation and Geriatric Medicine

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In this paper, I argue that the International Classification of Functioning, Disability and Health (ICF), proposed by the World Health Organization, provides not only a model to understand health, but a model to understand rehabilitation and geriatric medicine. The ICF proposes that poor health is defined by a complex product of the interactions between several domains: body functions and structures (and impairments of them), activities (and limitations in their performance), participation (and restrictions to it), the physical and social environment (which may be facilitating or hindering) and personal factors. I propose that the ICF allows a logical classification of the potential interventions that are possible to improve health during rehabilitation or geriatric practice. These interventions may target each of the domains of health in the ICF. An example is given illustrating this approach in the management of a person who has fallen. This model of rehabilitation illustrates that rehabilitation is a complex multidisciplinary process, comprising restorative and adaptive strategies including the use of assistive technologies, and which is reliant upon careful assessment and care planning. [*J Chin Med Assoc* 2008;71(6):275–278]

Key Words: disability, geriatric medicine, rehabilitation

Introduction

Rehabilitation aims to optimize health. The concept of *health* is not the absence of disease. Yet many health professionals, including doctors, have difficulty understanding this distinction. If the concept of health is not clearly understood, then it is hardly surprising that rehabilitation, the process of optimizing it, is poorly understood and poorly practiced. Geriatric or frailty medicine is based upon an approach that is mainly rehabilitative: geriatric and frailty medicine also require an understanding of health.

The International Classification of Functioning, Disability and Health

The World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) provides a helpful framework for understanding health.[1] For many years, it has been recognized that scientific developments in health would be limited by a lack of a common understanding and language to describe health. Scholars from many countries of the world worked together to develop a solution. The first model they developed was the International Classification of Impairments, Disabilities and Handicaps (ICIDH) in 1980.[2] This introduced the distinction between 3 domains of health experience: impairments of body functions and structures, disability or an inability to undertake tasks, and handicap or the loss of role that accompanies impairment and disability (Figure 1).

The framework engendered much debate. For many in rehabilitation, it was helpful because it helped their thinking. It helped to explain that roles could still be performed and tasks could still be done, even in the presence of disease or physiological abnormalities, and hence it explained why rehabilitation could be effective

Figure 1. The ICIDH model of health.

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without cure of disease and hinted towards how effective rehabilitation could be undertaken. But the shortcomings of the model drew debate. It was seen as a *medical model* in which the cause of disability and handicap was assumed solely to be due to disease, and in which environmental and societal factors were not adequately recognized. It was also an *individual model* that located the responsibility of disability to the individual rather than to society. This was felt to leave the matter of health in the hands and under the control of the values of doctors and other health professionals and to perpetuate an oppressive tendency of society not to tolerate members of that society who are different from the majority. A counter model, the *social model*,[3] was developed, reframing health as a societal concept, and indeed some people regard disability simply as a form of discrimination, thereby locating it entirely as something that society does to people who are different from the majority.[4]

This debate illustrated that the task of developing a common understanding and language for health was not yet achieved. By 2001, the WHO had endorsed a revised framework, responding to the criticisms that the ICIDH framework had received. This framework, the ICF, made some important changes from the ICIDH.

In the ICF, health is defined by the interaction between body functions and structures and their impairments, activities and their activity limitations (which was "disability" in ICIDH), participation and restriction in participation (which was "handicap" in ICIDH), and also contextual or environmental factors (which could be physical or social, and which could be hindrances or facilitators) and personal factors that represent the differences that will always exist between people and their preferences. The distinction between the capacity to perform a task under standard or optimum conditions and the actual performance of the task under usual conditions was made. Figure 2 is a simplified illustration of these concepts.

It is difficult to prove or disprove the conceptual basis of the ICF. Time will tell whether the ICF is adequate to give mankind a sufficient intellectual framework to understand health. It will perhaps never be proved, but it will remain until it is shown to be inadequate or replaced by something better. The ICF is not as simple as the ICIDH. It is still an *individual* model and may not accommodate the *social* model. However, the ICF does provide a basis for understanding the rehabilitation process, and hence coming towards a common understanding of it.

The ICF in Rehabilitation and Geriatric Medicine

Figure 3 illustrates a model of the sorts of interventions that could be employed to improve health, either by reducing impairments, helping performance of activities even in the face of limited capacity, or promoting participation even in the face of activity limitation. Professionals working in rehabilitation and geriatric medicine will recognize that these elements cover the wide range of interventions used.

This model can be useful in many ways. If a person seeks help to improve their health, the framework can be used to make a "rehabilitation diagnosis"[5] or a summary statement of how and in what ways their health is affected. This is similar to a comprehensive geriatric assessment used in geriatric medicine. A number of possible interventions flow immediately from this assessment. These might include those interventions intended to reduce impairments. It might include the use of aids and appliances, or highlight the need to overcome barriers to behavioral change. But it also clarifies why attention to the social and physical environment is important. Rehabilitation and geriatric care is an iterative process in which progress is repeatedly reassessed and the interventions altered accordingly. This model of rehabilitation and geriatric care helps to remind those steering the process what alternative strategies exist when current ones are not working.

The use of this model is well illustrated using a typical geriatric syndrome: falls. Figures 4A–C use this model to illustrate the sorts of interventions that might be employed to improve the health of patients

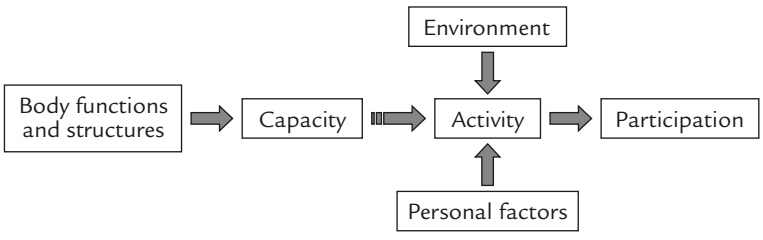

Figure 2. The ICF model of health.

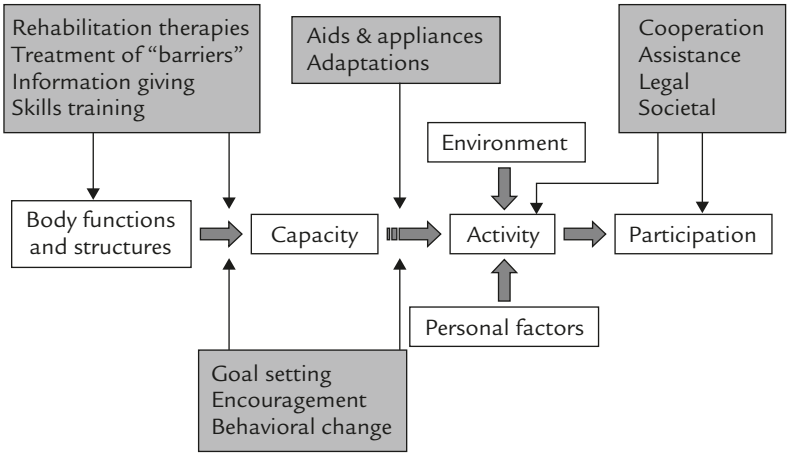

Figure 3. A model of rehabilitation.

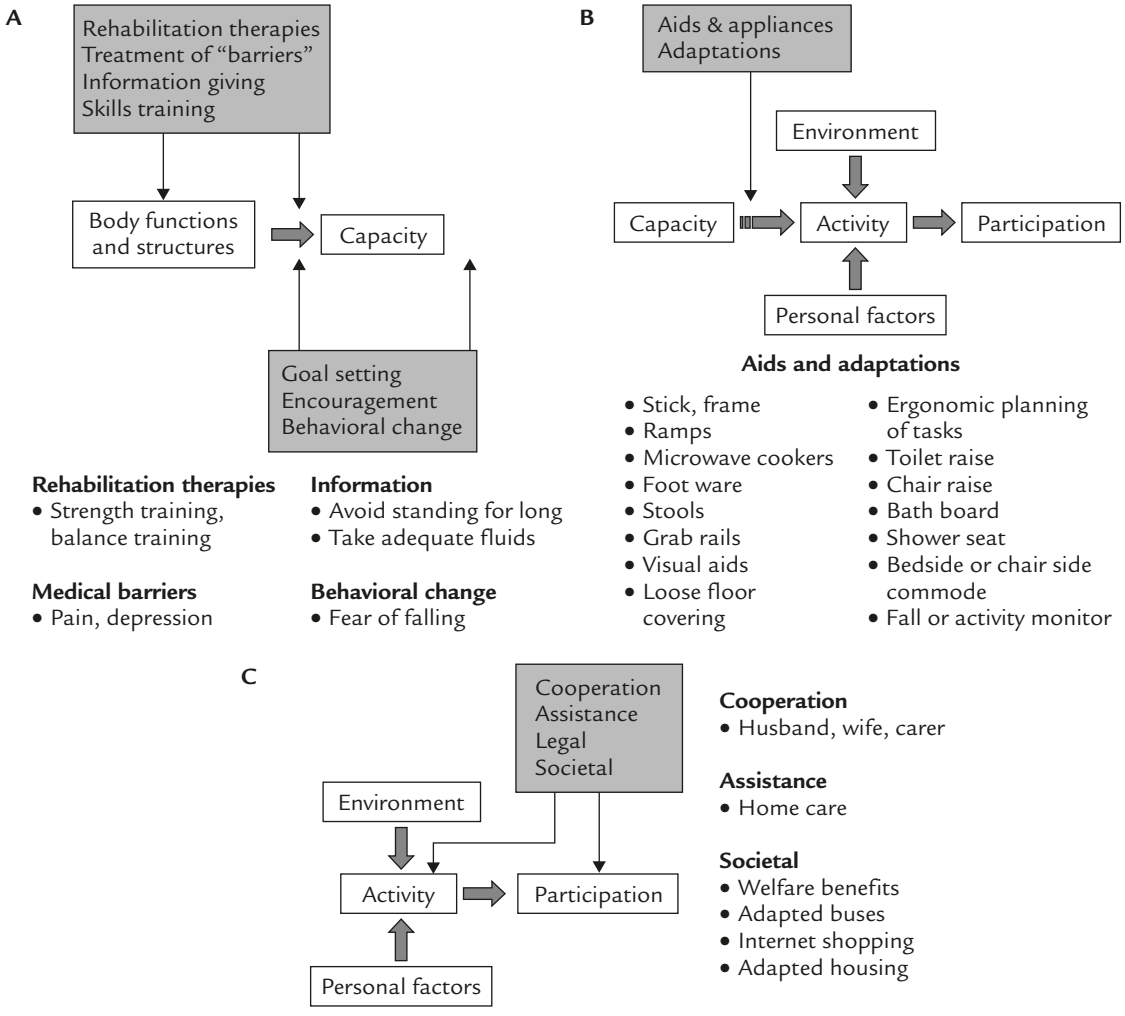

Figure 4. (A) Falls intervention: restorative. (B) Falls rehabilitation: assistive technology. (C) Falls rehabilitation: adaptive.

who fall. It does not replace the need for doctors to make a medical diagnosis of the diseases that give rise to the fall or propensity to do so. Indeed, this allows the doctor to reduce some of the most troubling impairments such as postural hypotension arising from polypharmacy.

Even in the presence of a number of impairments, it is still possible to reduce impairments in strength and

balance. When strength and balance remain impaired, tasks can be undertaken using aids and adaptations, and ways of performing tasks that can be taught to make them easier to do. In the frailest people, skilled care and attention to supervision and assistance during task performance can enable people to stay at home safely and to live their lives as closely as possible to the way they wish.

By using the ICF's broad understanding of health, the model of rehabilitation and geriatric care illustrates why they are interdisciplinary activities: very few individuals can provide all the interventions. It also helps make the point that rehabilitation and geriatric care is more than the restoration of health or the promotion of recovery. It shows that rehabilitation may optimize health by adapting to irreversible or even progressive conditions. The term *restorative rehabilitation*[6] may be applied to the cluster of interventions that restore health, such as are often used in conditions that improve, for example, after a fracture or a stroke. The term *adaptive rehabilitation*[6] may be applied to those interventions that help people to optimize their health in the face of residual or progressive impairments. These concepts are important in geriatric medicine, where it is usual for attempts at restoration to be limited due to irreversible chronic disease. Indeed, after a fall or a stroke, it is very common for the rehabilitation process to switch from an initially restorative approach to an adaptive approach later on. It is important that both approaches are used and that neither is neglected. The concept of adaptive rehabilitation helps one to understand how geriatric rehabilitation services can help patients with dementia[7] or other progressive conditions: if rehabilitation is only understood as a restorative process, then it is easy to see why rehabilitation can be seen as futile and hence why people with dementia can be denied the benefits of an adaptive approach.

There is still a lot to do before the potential benefits of the ICF framework are realized. Its intention is to provide a common language, and this means that doctors, nurses, therapists and social workers all need to be trained in and use these concepts. While different members of the interdisciplinary team have different understandings of health and use phrases such as quality of life, disability or function to mean different things, it is likely that the rehabilitation process will be inefficient or ineffective. We also need a theoretically sound and common understanding of rehabilitation interventions—the classifications used in Figures 4A–C are not those of the ICF but simply my illustrations. Despite this, I have found that it helps me to understand my patient's predicament, to help plan how he or she can be helped and to contribute specifically as a doctor in this process. I have found that it enables me to teach logically about rehabilitation and geriatric medicine to students and junior professionals. I have found that it helps me to interpret research in the field and pose the right research questions. I recommend the ICF to people working in rehabilitation and geriatric medicine.

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