



Professional Assignment Project 2008

Protocol :
**The clinical use of the RPS-Form
based on the ICF Model**

Descriptive Pilot Study:
**Implementation of the RPS-Form in two
centres
in Indonesia and Nepal**

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**The words we use can structure the way we think,
the decisions we make,
and actions we take.**

**In physiotherapy therefore,
the language we use to talk about pathology, injury,
illness and disability can influence our clinical
decisions and the way we interact with our patients
and other health professionals.**



Project Assignment

This protocol has been developed for health care professionals working in the field of rehabilitation to facilitate the use of the RPS-Form in clinical practice. The RPS-Form, as a common language tool, could therefore make worldwide research possible. It helps to collect data in standardized methods, and it assists researchers in drawing conclusions and to make generalizations worldwide. This protocol has the intention to simplify the acquaintance and practical use with the RPS-Form and to be a study guide for everyone involved in rehabilitation and especially for physiotherapy students and physiotherapy professors. Furthermore, the process of implementation in two centres in Indonesia and Nepal, specialized in Cerebral Palsy (CP), is compared in a descriptive pilot study and can assist in further implementation steps.



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2. List of Abbreviations

AIHW	Australian Institute of Health and Welfare
CP	Cerebral Palsy
ICF	International Classification of Functioning
ICIDH	International Classification of Impairment Disability and Handicap
ICD-10	International Statistical Classification of Diseases and Related Health Problems 10th Revision
RPS-Form	Rehabilitation Problem-Solving Form
UN	United Nation
WHO	World Health Organization



PART 1: Protocol



3. Outline of the Paper

3.1. Introduction

Within global health-related concerns, the World Health Organization (WHO), governed by the United Nation (UN), provides a high spectrum in guidelines, projects, research protocols and communication tools. According to the WHO (2002), the International Classification of Functioning, Disability and Health (ICF) is WHO's framework for measuring health and disability at both individual and population levels. The ICF puts the notion of 'health' and 'disability' in a new light and acknowledges that every human being can experience a decrement in health and thereby experience some degree of disability (WHO, 2002). Disability is not something that only happens to a minority of humanity. The ICF thus 'mainstreams' the experience of disability and recognizes it as a universal human experience (Üstün et al. 2003). Contextual factors play an integrative role, comprising any social and environmental factors, which can influence someone's state of health.

As presented by Steiner et al. (2002), a further developed assessment sheet which is based on the ICF concept, called the 'Rehabilitation Problem-Solving Form' (RPS-Form), allows health care professionals to analyze the patient's functioning by presenting the assessment results in all components of human functioning and environmental and personal factors. In particular, the RPS-Form was designed to address the patients' perspectives and enhance their participation in the decision-making process of rehabilitation.

Nowadays, more and more physiotherapists are crossing borders for various concerns. The use of a common measurement tool, such as the RPS-Form, can therefore be beneficial and serve as language tool between health professionals. According to Stucki et al. (2003), the new language ICF - or modified RPS-Form - is an exciting landmark event for rehabilitation. It may lead to a stronger position of rehabilitation within the medical community, change multi-professional communication and improve communication between patients and rehabilitation professionals (Stucki et al. 2003).

As a matter of fact, the ICF implementation in well advanced countries is already in progress and facilitates clinical thinking. However, further research and studies are still necessary concerning the use of the RPS-Form. From general observation the researchers assume that the RPS-Form is primarily used by well-advanced countries, such as the Netherlands or Switzerland.



As stated by Üstün et al. (2003), in most countries with a sophisticated health administrative data collection and utilization infrastructure, a wide variety of information is collected on disease burden, diagnostic tests, interventions, and treatment outcomes. What is often missing is information that would link diagnosis and treatment with health outcomes that are fully meaningful to the patient's life, namely information about the presence of decrements in capacity to carry out tasks and actions in areas of life as well as how these decrements display in the person's actual, real-life environment (Üstün et al., 2003).

Therefore, as internationally educated physiotherapist, it is of importance to be aware of the existence of global language tools which should be implemented in clinics and practices all over the world.

3.2. Purpose of the Study

This protocol will be elaborated, assisting other physiotherapy professionals and students in their future work on how to work with the RPS-Form.

It is of relevance to mention that literature research and intensive reading was carried out before the authors started their clinical internship in Nepal and Indonesia to implement the RPS-Form. This resulted in controversial definitions and explanations on how to accurately work with the form. As a matter of fact, there are still some items which seem to be not clearly defined and therefore cause problems in introducing the form to students or in implementing the form in rehabilitation centres. Hence, this physiotherapeutic protocol which is based on relevant literature will be administrable for any reader who is interested in closely occupying themselves with the RPS-Form.

3.3. Clinical Relevance

A health care professional needs to have a basic toolkit which guides them through daily procedures such as documenting relevant data about patients. The use of common assessment frameworks and guidelines can therefore be helpful in working in a structured and meaningful way. It provides a fundamental framework in which information is gathered and interpreted.

A conceptual framework as stated by Shumway-Cook and Woollacott (2007) influences clinical practice in several ways. It influences decisions about what to measure during examination of the patient, the selection of intervention strategies, and respectively the conclusions that have to be drawn. It provides the clinician with guidelines on how to



proceed through the clinical intervention process (Shumway-Cook & Woollacott, 2007, p.137).

The RPS-Form, based on the ICF Model can be seen as a conceptual framework used in clinical practice and rehabilitation. It is a rather new form by the WHO (published in 2001), and not a lot of research has been done on the RPS-Form and its implementation into clinical practice and rehabilitation.

The concept of the RPS-Form is one of the latest frameworks which covers data collection of the patient in a holistic way and allows a good understanding of the impact of the patients' disability effecting their daily life, environment, participation, activity limitation and functional restrictions. The form delivers a clear and simple outline of data collection, which makes it possible to connect and link influencing factors with each other and thereby guide clinical reasoning leading to the setting of specific goals.

The RPS-Form, is of course not the only conceptual framework which can be used in clinical practice, but it certainly addresses the patients' perspectives and enhances their participation in the decision-making process (Steiner et al. 2002), which discriminates the RPS-Form from other forms.



4. Rehabilitation

According to the WHO (2007), rehabilitation of people with disabilities is a process aimed at enabling them to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels. Rehabilitation provides disabled people with the tools they need to attain independence and self-determination (WHO, 2007).

The health sector is one of several involved in rehabilitation. Furthermore, other sectors, including education, social and labour may also be involved. Clearly all sectors must work together for the best benefit of the patient (WHO, 2007).

4.1. ICIDH

A global common language in the field of disability has long been wanted. For this purpose the International Classification of Impairments, Disabilities and Handicaps (ICIDH), was first published in 1980 by the WHO, as a manual of classification relating to the consequences of diseases, that is impairment, disability and handicap (AIHW, 2002).

The ICIDH recognizes impairment as an exteriorized loss of structure, or abnormality of function at the organ level, disability as a restriction of actions at the person level and handicap as a set of disadvantages within the individual's particular social context. Thus, three different levels are involved with, in most cases, impairment leading to disability and disability leading to handicap (Orgogazo, 1994).

The ICIDH Model has provided bases for definitions of rehabilitation and health classification and by 1994 the ICIDH had been translated into 13 languages. However, the ICIDH did not find worldwide acceptance and was criticized for not explicitly recognizing the role of the environment in its model and its use of negative terminology (AIHW, 2003).

Induced studies about the ICIDH show, that diagnosis alone does not predict service needs, length of hospitalization, level of care or functional outcomes. Nor is the presence of a disease or disorder an accurate predictor of receipt of disability benefits, work performance, return to work potential, or likelihood of social integration. This means that if a medical classification of diagnoses is used alone, the information needed for health planning and management purposes are missing (WHO, 2002).

The successor to the ICIDH, the ICF, addresses these criticisms by incorporating environmental and personal factors and by using the more neutral concepts (Stucki et al. 2007).



4.2. ICF

After nine years of international revision efforts coordinated by the WHO, approved the International Classification of Functioning, Disability and Health and its abbreviation of "ICF."

As stated before, the ICIDH did not incorporate environmental and personal factors and because of this omission, the ICF was developed. The ICF was officially endorsed in the year 2001 and it has been accepted by 191 countries as the international standard to describe and measure health and disability (WHO, 2001).

The ICF has three main domains, body structures and functions, activities, and participation that can be used to classify the impact of health. In this framework the domains interact with each other (not necessarily in a linear manner) and are influenced by both environmental and personal factors. Problem areas within the domains are called impairment, activity limitation, and participation restriction. These terms decrease the negative connotations associated with earlier terminology, that is, disability and handicap described by the ICIDH (Harris, 2005).

ICF is useful to understand and measure health outcomes. It can be used in clinical settings, health services or surveys at the individual or population level to improve functioning of people with health conditions experiencing or likely to experience disability and to achieve and maintain optimal functioning in interaction with the environment (Stucki et al. 2007).

According to the WHO (2002), ICF and ICD-10 (International Statistical Classification of Diseases and Related Health Problems) are complementary, and, together they form the WHO Family of International Classifications. ICD-10 provides a "diagnosis" of diseases, disorders or other health conditions and is enriched by ICF which provides additional information on functioning. Together, information on diagnosis (ICD-10) plus functioning (ICF) provides a broader and more meaningful picture of health of people or populations and allows more rational allocation decisions and evidence-based policy making (WHO, 2002). However, in conjunction with this protocol, no further attention will focus on the ICD-10 in combination with the ICF Model, and focus will be on the ICF Model and the RPS-Form.



4.2.1. Aims of ICF

The stated aims of the ICF (WHO, 2001) are to:

- provide a scientific basis for understanding and studying health and health-related states, outcomes and determinants;
- establish a common language for describing health and health-related states in order to improve communication between different users, such as health care workers, researchers, policy-makers and the public, including people with disabilities;
- permit comparison of data across countries, health care disciplines, services and time management;
- provide a systematic coding scheme for health information systems.

4.3. RPS-Form

Based on the framework of the Rehabilitation Cycle (and its modified version, the Rehab-CYCLE, as explained later) developed by Stucki and Sangha (1997), the advanced form developed by Steiner et al. (2002) is called the “Rehabilitation Problem-Solving Form” (RPS-Form). As stated by Steiner et al. (2002), the RPS-Form can be seen as a tool in clinical use to assemble the idea of the Rehab-CYCLE, and the ICF Model.

As mentioned before, the ICIDH and the ICF are models of health and rehabilitation, rather than a practical tool. The RPS-Form therefore can be used as a tool for clinical assessment data collection. It enhances the patient-centred approach and the decision-making process. The RPS-Form gives a clear visual picture of the patient’s complaints and influencing factors on the person’s health condition. The core problem can be emphasized and clearly linked with secondary influencing factors and disturbing factors which can interfere with the normal healing course. Later on in this paper the use of the RPS-Form will be explained in more detail.

4.4. The Rehab-CYCLE

According to the authors of the RPS-Form, the Rehab-CYCLE (Figure 1) is a continuous process that involves identifying the problem and needs of individuals, relating the problem to relevant factors of the person and the environment, defining therapy goals and planning and implementing the interventions using measurements of relevant variables.

The Rehab-CYCLE guides the health care professional with a logical sequence of activities. Because the consequences of disease manifest differently in different people, it is necessary to have a conceptual framework for ordering and understanding what disease



means for a patient. And because the identification of a patient's problem is the first step in rehabilitation management, the RPS-Form can be a helpful tool to record patient information (Steiner et al. 2002).

The ultimate goal of the Rehab-CYCLE is finally to improve a patient's health status and quality of life by minimizing the consequences of disease (Steiner et al. 2002).

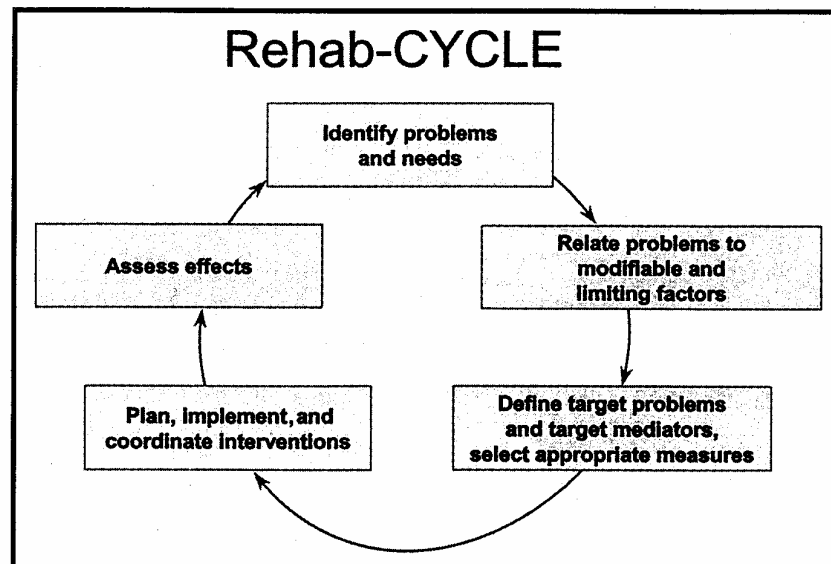


Figure 1: The Rehab-Cycle, developed 1997 by Stucki et al.

4.5. Value to Physiotherapists of using the ICF Model and RPS-Form

According to Rimmer (2006), many health professionals have expressed difficulty finding a way to keep people with disabilities engaged in community-based physical activity/rehabilitation programmes. The author also points out that a major reason for this low adherence may be that recommended intervention plans do not match well with the specific needs of the individual. Furthermore, various personal and/or environmental factors along with the personal level of functioning can impede participation in healthful physical activity rehabilitation. The ICF in conjunction can allow health professionals to identify the level of functioning at the body, person and societal level, as well as understand contextual factors (personal and environmental factors) that may impede or enhance participation (Rimmer, 2006).

Among other advantages, the ICF Model describes disability as the outcome or result of a complex relationship between an individual's health condition and the external factors that are present in the circumstances in which the individual lives (Rimmer, 2006).



The literature evidences a significant interest and a variety of efforts to apply the ICF to a number of professional areas, such as nursing, occupational therapy, speech-language pathology, and audiology (Bruyere et al. 2005). Due to the fact that the ICF framework is applicable across all disciplines it makes it possible not only to compare outcomes across disciplines, but also across different countries and cultures.

A thorough data collection of patients in rehabilitation is vital for a good treatment approach and any re-assessment measures. The multidisciplinary team model originates from the belief that a comprehensive therapeutic approach is required to fully address the current health care needs of patients with complex or chronic diseases (Steiner et al. 2002).

Rehabilitation services often involve many professions working with the same patient. Without a common language tool (such as provided by the ICF and RPS-Form) for describing outcomes, clinicians are hampered when sharing information about patient progress - many, even within the same profession, commonly use dissimilar language to relate goals and outcomes (AIHW, 2003). However, to facilitate comprehension, this study will focus on the physiotherapeutic use of the ICF Model and the RPS-Form.

Additionally the RPS-Form as clinical data sheet collection leaves space for the documentation of the patient's perspective of their health situation. In other words it becomes clear what disease means for the patient. This allows the health professional to approach the patient at an adequate level and enhance an individual tailored rehabilitation therapy. The physical therapist has, therefore, the ability to formulate relevant therapy goals together with the patient to enhance a therapy approach in which the patient is actively involved in the decision-making process during rehabilitation.



5. Application Method - ICF

To be able to work with the RPS-Form, it is important to understand the concept of the ICF. Therefore, this chapter describes and explains the most important issues of the ICF. The classification scheme, codes and to a little extent the qualifiers will be introduced. Someone has to keep in mind that this protocol can be used as additional study guide. However, the comprehension of the ICF Model depends on a well-structured introduction by a professional. Also, a close look at the ICF's online database (www.who.int/classification/icf/en) can help to further understand the following chapters. Because this paper mainly wants to explain the ICF as a framework which helps to understand the setting of the RPS-Form, only the use of various codes without any qualifiers will be explained in detail. In the end, the RPS-Form will be introduced based on the concept of the ICF Model. By this, the reader can logically understand how the RPS-Form can be used in clinical practice.

5.1. Scope of the ICF

The development of the ICF was guided by a bio-psycho-social or integrative model (Figure 2) of functioning and disability (WHO, 2002). Based on this model, functioning with its components (body functions and structures, activities and participation) is seen in relation to the health condition into consideration, as well as personal factors and environmental factors (Cieza et al. 2006).

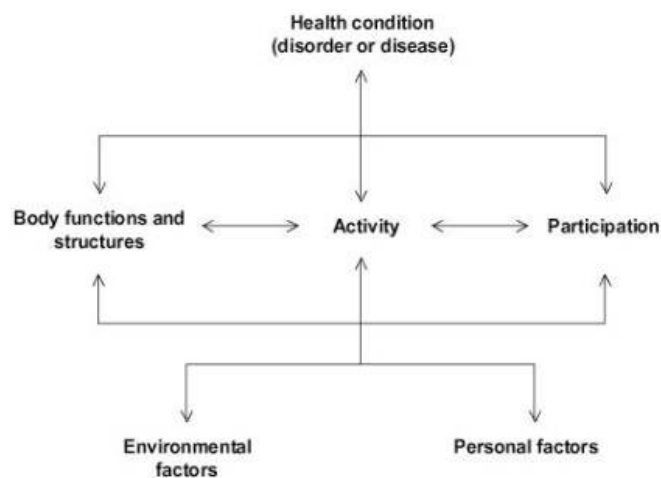


Figure 2: Schematic diagram of the ICF (WHO, 2002). It defines functioning and disability as a multidimensional concept.



5.2. Overview of Components

ICF consists of two major parts, each with two components (WHO, 2001):

Part 1. Functioning and Disability (Figure 3)

- (a) Body functions and structures
- (b) Activities and participation

Part 2. Contextual Factors (Figure 4)

- (a) Environmental factors
- (b) Personal factors

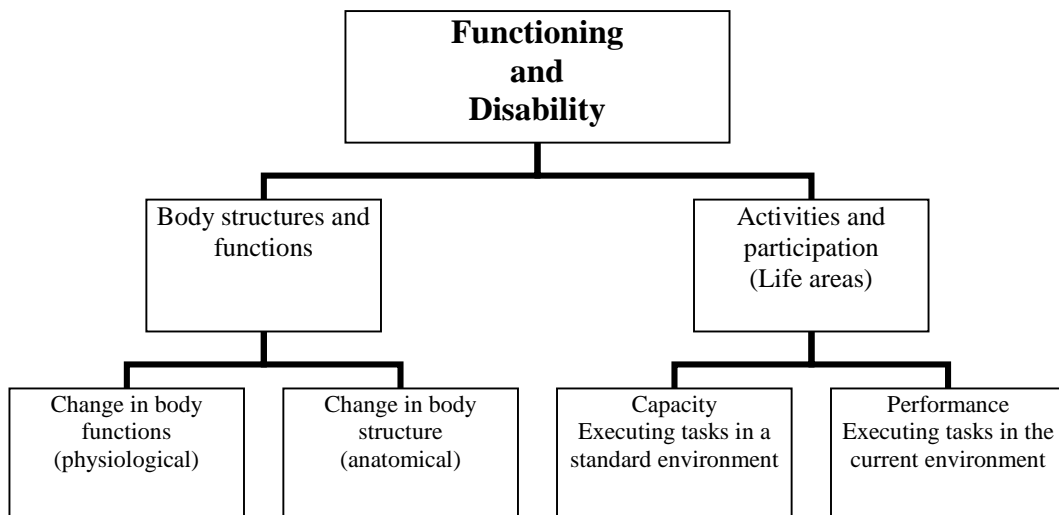


Figure 3: Sub-components of Functioning and Disability

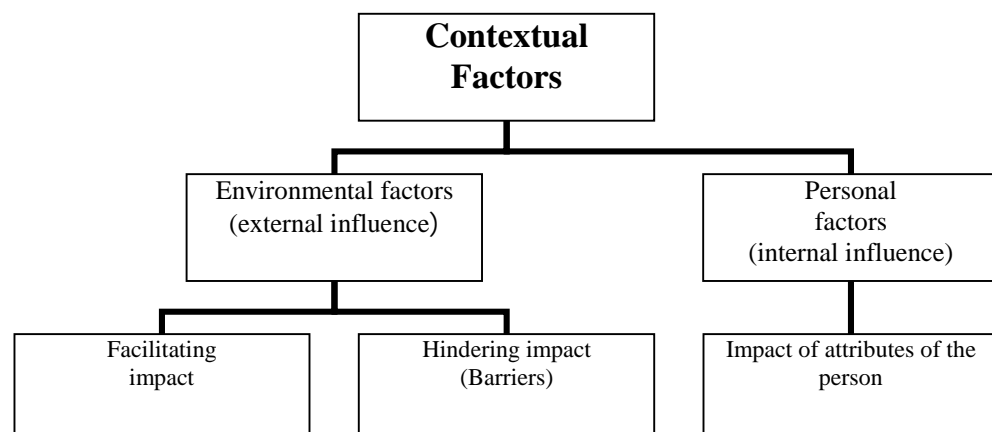


Figure 4: Sub-components of Contextual Factors



5.2.1. Definition of Components (WHO, 2001)

∅ BODY FUNCTIONS:	Body functions are the physiological functions of body systems (including psycho-social functions).
∅ BODY STRUCTURES:	Body structures are anatomical parts of the body such as organs, limbs and their components.
∅ IMPAIRMENTS:	Impairments are problems in body function or structure such as significant deviation or loss.
∅ ACTIVITY:	Activity is the execution of a task or action by an individual.
∅ PARTICIPATION:	Participation is involvement in a life situation.
∅ ACTIVITY LIMITATIONS:	Activities limitations are difficulties and individual may have in executing activities.
∅ PARTICIPATION RESTRICTION:	Participation restrictions are problems an individual may experience in involvement in life situations.
∅ ENVIRONMENTAL FACTORS:	Environmental factors make up the physical, social and attitudinal environment in which people live and conduct.

5.2.2. Division of Components

Each component is composed of various domains. Respectively, Figure 3 and Figure 4 present the division of the components 'Functioning and Disability' and 'Contextual Factors'. Various domains can then be expressed by units of classification (Table 2). As can be reviewed in the Australian User Guide (2003), a number of codes and qualifiers finally serve to specify health and health-related states of an individual. However, this paper specifically focuses on the various components and their domains of the ICF and hence of the RPS-Form. Therefore, qualifiers are not further explained in detail.



5.2.3. ICF Components and Domains

To simplify the use of the ICF in clinical practice, table 1 outlines examples of some components which are composed of various domains which are sets of related physiological functions, anatomical structures, actions, tasks, areas of life, and external influences. As stated by the AIHW (2003), the ICF has a separate chapter for each of the domains.

Component	Domain/Chapter headings
Body functions (8 chapters)	<ol style="list-style-type: none"> 1. Mental functions (e.g. memory functions, intellectual functions) 2. Sensory functions and pain (e.g. hearing functions, smell functions) 3. Voice and speech functions (e.g. articulation functions) 4. Functions of the cardiovascular, haematological, immunological and respiratory system (e.g. blood pressure functions, respiratory muscle functions) 5. Functions of the digestive, metabolic and endocrine systems (e.g. ingestion functions, endocrine gland functions) 6. Genitourinary and reproductive functions (e.g. menstruation functions) 7. Neuromusculoskeletal and movement-related functions (e.g. mobility of joint functions) 8. Functions of the skin and related structures (e.g. repair functions of the skin)
Body structures (8 chapters)	<ol style="list-style-type: none"> 1. Structures of the nervous system (e.g. spinal cord and related structures) 2. The eye, ear and related structures (e.g. structure of the eyeball, structure of the inner ear) 3. Structures involved in voice and speech (e.g. structure of the mouth) 4. Structures of the cardiovascular, immunological and respiratory system 5. Structures related to the digestive, metabolic and endocrine systems (e.g. structure of intestine, gall bladder and ducts) 6. Structures related to the genitourinary and reproductive systems (e.g. urinary system, pelvic floor) 7. Structures related to movement (e.g. head, neck) 8. Skin and related structures (e.g. skin glands)



Activities and participation (9 chapters)	<ol style="list-style-type: none"> 1. Learning and applying knowledge (e.g. learning to read, solving problems) 2. General tasks and demands (e.g. carrying out daily routine) 3. Communication (e.g. speaking, conversation) 4. Mobility (e.g. getting around inside or outside home) 5. Self-care (e.g. washing oneself, dressing) 6. Domestic life (e.g. preparing meals, acquiring a place to live) 7. Interpersonal interactions and relationships (e.g. family relationships) 8. Major life areas (e.g. work and employment) 9. Community, social and civic life (e.g. recreation and leisure, religion and spirituality)
Environmental factors (5 chapters)	<ol style="list-style-type: none"> 1. Products and technology (e.g. computer, lift) 2. Natural environment and human-made changes to environment (e.g. light, sound, air quality) 3. Support and relationships (e.g. immediate family, health professionals) 4. Attitudes (e.g. individual attitude of friends or health professionals) 5. Services, systems and policies (e.g. social security services, systems and policies)
Personal factors	No classification. Beyond the scope of the ICF!

Table 1: ICF components and domains/Chapters (based on the ICF Australian User Guide, 2003)

5.2.4. Classification and Codes

As published by the WHO (2002), the ICF offers a number of 1400 different categories which describe various conditions of health and health-related states. There, a number of 493 codes for body functions, 258 codes for body structures, 393 codes for activities and participation and last but not least 258 codes for environmental factors can be found. However, it does not contain any codes for the classification of personal factors.

According to the book of the ICF (WHO, 2002), recording of an individual's 'problem' can be classified and coded in a hierarchic manner (Figure 5). The hierarchy of classification and codes for each of the components can be recorded by neutral codes (Table 2), with specific measures which indicate the extent of the 'problem'.



Environmental factors are identified differently, which can be recorded as being either barriers to, or facilitators of a person's functioning. This paper doesn't further define these specific measures because initial steps of understanding and implementation at first demands the ability to work with the concept itself.

Level	Example	Coding
Component	Body functions	b
Chapter	Chapter 2: Sensory functions and pain	b2
Second level	Seeing functions	b210
Third level	Quality of vision	b2102
Fourth level	Colour vision	b21021

Table 2: The domains of ICF are arranged in a hierarchy (chapter, second, third and fourth level domains), which is reflected in the coding (WHO, 2002).



5.2.5. The Units of Classification

As can be seen in Figure 5, domains (e.g. mental functions) consist of blocks (e.g. specific mental functions) within which are nested groups of second-level, third-level, and sometimes fourth-level categories. These additional levels can further refine the code and give detailed records about the domain.

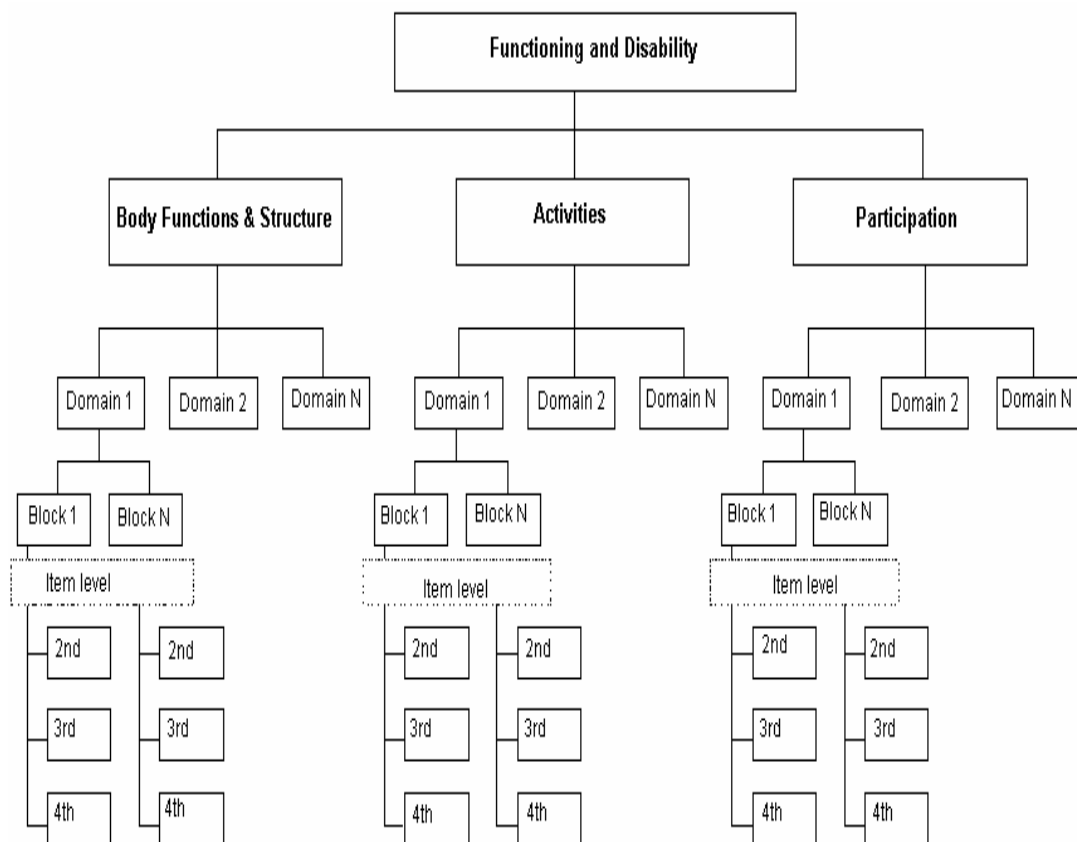


Figure 5: The hierarchy of classification of the ICF (AIHW, 2003).



Example:

Child T. S. has diplegic cerebral palsy and cannot perform the basic movements required to go to the toilet. A special toilet chair is not available due to poor conditions of the country's health care system and policies. Unfortunately there are many deep toilet wholes in the child's country (Nepal) that prohibits the child from going to the toilet outside of the house. The following figure examples give an overview on the codes relevant for this specific condition of child T.S.:

Example of coding for a child with diplegic CP

<p>Code: b735 Body functions → Component: b + Chapter 7: Neuromusculoskeletal and movement-related functions → Chapter Domain: 7 + Muscle functions → 2nd level Category: 35</p>
<p>Code: d530 Activities and Participation → Component: d + Chapter 5: self-Care → Chapter Domain: 5 + Toileting → 2nd level Category: 30</p>
<p>Code: e115 Environmental Factors → Component: e + Chapter 1: Products and Technology → Chapter Domain: 1 + Products and technology for personal use in daily living → 2nd level Category: 15</p>
<p>Code: e575 Environmental Factors → Component: e + Chapter 5: Services, Systems and Policies: 5 + General Social Support Services, systems and policies: 75</p>

5.3. ICF Core Sets

Categories (list of domains) that are relevant to most patients with a specific health condition are called “core sets”.

The ICF core sets, as cited by Cieza et al. (2006) represent one approach to operationalize the ICF for clinical practice and research in the form of short, generally-agreed-on lists of



ICF categories relevant for specific health conditions. Therefore, as stated by Stucki et al. (2002), condition-specific core sets need to include the least number of domains possible to be practical but as many as required to sufficiently and comprehensively cover the prototypical spectrum of limitations in functioning and health encountered in a specific condition.

5.3.1. Example-Draft: ICF Core-Set for Cerebral Palsy

The number of items belonging to the ICF domains associated with CP in children is based on the researcher's experience and is listed in Table 3. It has to be mentioned that the codes are mainly related to the field of physiotherapy.

Body functions (b)	Body structures (s)	Activities & Participation (d)	Environmental factors (e)
<u>Mental functions:</u> b11420 Orientation to self b11421 Orientation to others b1141 Orientation to place b1140 Orientation to time b140 Sharing attention <u>Functions of the digestive, metabolic and endocrine system:</u> b510 Ingestion functions b525 Defecation functions <u>Genitourinary and reproductive functions:</u> b630 Sensations associated with urinary functions b6202 Urinary continence <u>Muscle and movement</u>	<u>Structures of the nervous system:</u> s110 Structures of the brain s1100 Structure of cortical lobes s1101 Structure of midbrain s1102 Structure of diencephalon s1103 Basal ganglia and related structures s1104 Structure of cerebellum s1105 Structure of brain stem s1106 Structure of cranial nerves <u>Structures of the cardiovascular, immunological and respiratory system:</u> s410 Structure of cardiovascular system s420 Structure of	<u>Learning and applying knowledge:</u> d110 Watching and seeing d115 Listening and hearing d130 Copying d135 Rehearsing d150 Learning to calculate d155 Acquiring basic skills d160 Focusing attention d163 Thinking d166 Reading d169 Writing <u>General tasks and demands:</u> d210 Undertaking a single task d220 Undertaking multiple tasks d230 Carrying out daily routine <u>Communication:</u> d310 Receiving spoken messages	<u>Products and technology:</u> e1100 Food e115 Products and technology for personal use in daily living e120 Products and technology for indoor and outdoor mobility and transportation e125 Products and technology for communication e155 Design, construction and building products and technology of buildings for private use <u>Support and relationships:</u> e310 Immediate family e340 Personal care providers and personal assistants <u>Services, systems and policies:</u> e5400 Transportation services



<p><u>functions:</u></p> <p>b715 Stability of joint functions</p> <p>b720 Mobility of bone functions</p> <p>b730 Muscle power functions</p> <p>b735 Muscle tone functions</p> <p>b740 Muscle endurance function</p> <p>b750 Motor reflex functions</p> <p>b755 Involuntary movement reaction functions</p> <p>b760 Control of voluntary movement functions</p> <p>b765 Involuntary movement functions</p> <p>b770 Gait pattern functions</p> <p>b780 Sensations related to muscle and movement functions</p> <p><u>Functions of the skin and related structures:</u></p> <p>b810 Protective functions of the skin</p> <p>b820 Repair functions of the skin</p> <p>b830 Other functions of the skin</p> <p>b840 Sensation related to the skin</p> <p>b850 Functions of the hair</p> <p>b860 Functions of nails</p>	<p>immune system</p> <p>s430 Structure of respiratory system</p> <p><u>Structures related to movement:</u></p> <p>s710 Structure of head and neck region</p> <p>s720 Structure of shoulder region</p> <p>s730 Structure of upper extremity</p> <p>s740 Structure of pelvic region</p> <p>s750 Structure of lower extremity</p> <p>s760 Structure of trunk</p> <p>s770 Additional musculoskeletal structures related to movement</p>	<p>d315 Receiving nonverbal messages</p> <p>d330 Speaking</p> <p>d335 Producing nonverbal messages</p> <p>d350 Conversation</p> <p>d360 Using communication devices and techniques</p> <p><u>Mobility:</u></p> <p>d410 Changing basic body position</p> <p>d415 Maintaining a body position</p> <p>d420 Transferring oneself</p> <p>d430 Lifting and carrying objects</p> <p>d440 Fine hand use</p> <p>d445 Hand and arm use</p> <p>d450 Walking</p> <p>d4550 Crawling</p> <p>d460 Moving around in different locations</p> <p>d4600 Moving around inside home</p> <p>d4601 Moving around outside home</p> <p>d465 Moving around using equipment</p> <p>d470 Using transportation</p> <p><u>Self Care:</u></p> <p>d510 Washing oneself</p> <p>d5201 Caring for teeth</p> <p>d530 Toileting</p> <p>d5300 Regulation urination</p> <p>d5301 Regulating defecation</p> <p>d540 Dressing</p> <p>d550 Eating</p> <p>d560 Drinking</p> <p><u>Interpersonal interactions and relationships:</u></p> <p>d730 Relating with strangers</p>	<p>e57000 Social security services</p> <p>e5702 Social security policies</p> <p>e580 Health services, systems and policies</p>
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		d760 Family relationships <u>Major life areas:</u> d839 <u>Education, other</u> <u>specified and unspecified</u> <u>Community, social and</u> <u>civic life:</u> d910 Community life d920 Recreation and leisure d9200 Play d930 Religion and spirituality	
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Table 3: Example-draft: Core-Set for Cerebral Palsy

5.4. ICF Linking Rules

Many times, there is confusion on how to link the RPS-Form with other measurement and assessment tools, such as the Gross Motor Function Measure, which can also be used for children with CP. Moreover, physiotherapy guidelines recommend a variety of special tests for the assessment of certain clinical pictures. Most measurement instruments and special tests include their own grading. Linking to the ICF may thus be considered similar to translating concepts in a standard language which all people may understand.

According to Cieza et al. (2005), the ICF can serve as a connecting framework between interventions and outcome measures, facilitating the selection of the most appropriate outcome measure for the aim of the intervention.

However, Steiner et al. (2002) point out that in order to ensure a common language for interdisciplinary teams, health care professionals should specify the mediators on the RPS-Form, listing corresponding terms that are listed in the ICF. Furthermore, the authors say that only well-defined ICF items, they believe, can ensure consistency in the use of terminology across disciplines, and inconsistency can pose barrier to effective communication.



6. Application Method - RPS

After having read and studied the concept of the Model of the ICF someone can apply this knowledge to the datasheet of the RPS-Form. This chapter therefore presents the practical applicability of the form and how it can assist the health care professional in setting realistic goals for a patient. It is important to mention that the RPS-Form as additional datasheet, if applied in the right way, can facilitate and support treatment approaches in general, especially within the interdisciplinary team. The end of this chapter presents an example of documentation with the RPS-Form, along with an explanation of defining the target goals.

6.1. Scope of the RPS-Form

According to Stucki et al. (2002), the RPS-Form is used to identify specific and relevant target problems, discern factors that cause or contribute to these problems, and plan the most appropriate interventions.

6.2. Overview of the RPS-Form

The RPS-Form consists of a single datasheet (Figure 6) that is based on the Model of the ICF.

According to Steiner et al. (2002), it is designed to distinguish between the perspectives held by the patient and those of the health care professional. The patient's view is recorded in the upper part of the form denoted with "Patient's (or Relative's) Problems and Disabilities", and the health care professional's views are noted in the lower part denoted with "Health Professional's mediators relevant to target problems". The header of the RPS-Form is reserved for basic information such as the patient's name ("Patient"), the date of documentation and the disorder or the disease defined in words, current medication ("Medication") and case coordinator ("Coordinator") (Steiner et al., 2002).

The documentation of rehabilitation goals seems to finally be left out on the datasheet of the RPS-Form. Therefore, it is free to the user (therapist) where to note clinical goals. Based on clinical experience, the researchers would suggest leaving a short notice of clinical goals on the front page of the RPS-Form. The more detailed goal-setting and planning can be noted on the backside of the RPS-Form (see figure 7 in the Appendix 1).



Patient: Age: Form nr.: Date:		Disorder/Disease: í î		Medication: Coordinator: Rehab-Goal:	
Patient/Family Perception of Problems and Disabilities					
	<i>Functions/Structures</i>	<i>↔</i>	<i>Activities</i>	<i>↔</i>	<i>Participation</i>
Health Professional Identification of Mediators Relevant to Target Problems					
<i>Personal Factors</i>			<i>Environmental Factors</i>		

Figure 6: The Rehabilitation Problem-Solving Form (RPS-Form) as presented by Steiner et al. (2002).

6.3. Identification of Problems and Disabilities – Documentation on the RPS-Form

Steiner et al (2002) state, that the identification of a patient's problems and needs is the first step in rehabilitation management. This can be accomplished by an interview or a questionnaire filled out by the patient. Following, the concerns of the patient can be reported in the patient's own words on the upper part of the RPS-Form.

Secondly, the examination of the patient takes place keeping in mind the concerns stated by the patient. As a result, corresponding terms that are listed in the ICF are reported in the lower part of the RPS-Form.



6.4. Relevant Qualifiers for the RPS-Form

It is important to bear in mind that the documentation on the RPS-Form by a specialist can not only be described in words or codes, but additionally contain qualifiers to denote the extent of impairments, barriers or facilitators (as presented in Table 4). Even though, this protocol does not specifically focus on the qualification of codes, it is helpful to be aware that the ICF offers relevant qualifiers which can be used for the RPS-Form as well.

	Body functions and structures	Activities and participation*	Environmental factors	Personal factors
Meaning of qualifier	Indicates the extent or magnitude of an impairment	Difficulty in accomplishing this task	Barrier or facilitator	Quantitative property
Qualifier	Negative scale 1 Mild problem 2 Moderate problem 3 Severe problem 4 Complete problem 8 Not specified 9 Not applicable	Single item list 1 Mild problem 2 Moderate difficulty 3 Severe difficulty 4 Complete difficulty 8 Not specified 9 Not applicable	Barrier -1 Mild barrier -2 Moderate barrier -3 Severe barrier -4 Complete barrier Facilitator +1 Mild facilitator +2 Moderate facilitator +3 Substantial facilitator +4 Complete facilitator	Barrier -1 Mild barrier -2 Moderate barrier -3 Severe barrier -4 Complete barrier Facilitator +1 Mild facilitator +2 Moderate facilitator +3 Substantial facilitator +4 Complete facilitator
Example	s73021.2 Moderate impairment of the joints of the hands and fingers	d240.3 Severe difficulty in handling stress and other psychological demands	d1101.-2 Chronic abuse of pain killers à moderate barrier for rehabilitation	Social background: -1 Coping Strategies: -2

Table 4: Simplified table with first-level Qualifiers which can be used for the RPS-Form.

*According to Steiner et al. (2002), for the activities and participation component, 2 constructs are available: capacity and performance. For simplicity, these 2 constructs are not differentiated further. Therefore, the activities and participation classification results in a single list of items.

6.5. Relation of Problems to Relevant Modifiable Factors

According to the Model of the ICF, Steiner et al. (2002) make clear that the consequences of disease manifest differently in different people. Although many patients may have the same disease, their responses to disease can be unique, and, these particulars can become



crucial in the care of patients (Steiner et al. 2002). Hence, through the process of analysing the patient's problems and needs and by relating them to relevant and modifiable factors, the therapist and the rehabilitation team are able to discuss a patient from a multidimensional viewpoint.

As stated by Steiner et al. (2002), the multiple interactions between patient and environment, and between all components of the patient's organism, require thinking in terms of causal networks, rather than in straight lines where A causes B, which leads to C. As a consequence, the author also denotes, that it is the "art of rehabilitation" to discern target mediators (i.e., those mediators supposed to have the greatest potential to solve the target problems). According to the target problems, the resulting target mediators are marked on the RPS-Form by circling the corresponding items. Lines can be drawn to each of the corresponding target problems. The authors recommend the reader to focus on targets which are still reversible in terms of healing, and which can be treated according to evidence-based validity.

Visualization on the RPS-Form:

- Ø **Circle the target problem you think is the most crucial one for the therapy goal (e.g. walking)**
- Ø **Find and circle the target mediators (e.g. spasticity, motivation, etc.) which might have influence on the target problem (walking)**
- Ø **Draw lines from the corresponding mediators to the target problem**
- Ø **Define your hypothesis**

Through this process, the physiotherapist and other therapists involved in rehabilitation can relate the problems of a patient to impairments, activity limitations, participation restrictions, or personal and environmental factors. Subsequent, a hypothesis can be drawn about cause and effects and the most effective treatment option can be chosen.

Example of filling in the RPS-Form: Case of a child with CP

A 12 year old child (child T.) from Nepal lives with his family (mother, father, 2 sisters) in Kathmandu. Since birth, child T. is diagnosed with diplegic CP and from the age of 3 years it is treated by the Self-Help Group for CP. Ever since, the doctors prescribed Sodium Valproate to treat Epilepsy. The first years of treatment took place in the rehabilitation centre. However, because the family lives far away from the centre, a home visitor takes care of the child.



At the point of assessment for the RPS-Form, the mother gives following details:

Tight muscles, especially of the lower extremities cause problems for child T. to walk properly, to go to the toilet and to get dressed. She also mentions that there is deformity of the feet and while walking the child walks on toes with flexed knees. Furthermore, the child has speech problems, seizures and a risk for hip dislocations. Because of this condition, the child has little contact to other children from the neighbourhood but fortunately is able to visit a special school. However, the child is not able to walk to school or any other place independently without helping aids.

After having carefully documented the information retrieved from the mother, the physical therapist carries out a detailed assessment of the child:

Concerning body functions and structures the therapist detects an impaired muscle tone, especially of the hamstrings and the gastrocnemius muscles. Furthermore, both feet have an Equino-Varus deformity and the right hip shows increased mobility which might indicate previous hip-dislocations. Functional testing of walking clearly presents a spastic gait whereas the child is not able to walk for more than 10 meters. The physiotherapist also tests the child's capacity of toileting which shows that assistance is necessary. By asking the child/mother to take off trouser and shoes, the child is only able to perform the action minimally and the mother needs to help.

The whole assessment procedure indicates that the mother of the child seems to over-protect it. Also the fact that the child is not able to participate in leisure activities and sports, appear to bother him in a great way.

Throughout the assessment, the child presents difficulties in articulation and the mother assists in communication.

Analysing contextual factors which might be relevant for the child's condition, the therapist detects that the child is coping well with its condition and is very motivated in getting involved with treatment. Social background due to educational issues is missing to a moderate extent.

Environmental factors which influence the child's life are: restricted access to a wheelchair (due to general lack within the country), minimal support by health services and poor living conditions. However, the family shows a great support concerning the child's immediate needs and seems to be very cooperative with the therapist.



Defining a hypothesis / target goal on the RPS-Form (Appendix 1)

- Ø Circle the target problem: Walking
- Ø Circle the target mediators which might have influence on the target problem (walking):
 - Impaired muscle tone (spasticity)
 - Equinovarus
 - Gait pattern functions
 - Difficulties in walking short distances (10 m)
 - Child has little contact to children from the neighbourhood
 - Child can not go somewhere independently without helping aid
 - Difficulties engaging in leisure activity and sport
 - Motivation: +4
 - Products and technology for indoor and outdoor mobility and transportation (no wheelchair)
- Ø Draw lines from the corresponding mediators to the target problem
- Ø Define the hypothesis: Functional training of walking needs to be planned by taking all these factors (target mediators) into account. However, the multi-professional team can discuss on the most crucial and potential factors playing a role for setting up a treatment plan for the child. Because there is no scientific evidence to prove the superiority of any specific intervention the treatment should be as functional as possible to improve walking capacity of the child and meet the child's needs.

6.6. Evidence-Based Goal-setting with the RPS-Form

After the compilation of all limiting and modifiable mediators on the RPS-Form, according to Stucki et al. (2002), a revision process is needed to exchange information within the rehabilitation team as well as with the patient in order to define realistic therapy goals and to plan the most appropriate interventions. This awareness requires a methodical physiotherapeutic approach which should be purposeful, realistic and systematic. At this point, it is useful to remember the Rehab-CYCLE, which guides a logical sequence in clinical thinking of a patient's complaint and all factors involved. The formulation of a realistic treatment plan, accordingly, demands the appreciation of several values. As Steiner et al. (2002) mention, there is a desire to meet the patient's expectations and to achieve his or her commitment, but always taking into account practical and evidence-based knowledge of the rehabilitation team (e.g. aspects of secondary and tertiary prevention).



The visualization on the RPS-Form consequently helps the therapist and the interdisciplinary team to identify target problems and further discuss findings and hypothesis. According to the target problems, the resulting target mediators are marked on the RPS-Form by circling the corresponding items. Lines can be drawn to each of the corresponding target problems (Steiner et al. 2002). This visualization indicates which treatment options may be taken into consideration to reduce complaints of a patient. In regard to evidence-based practice it is important to choose for the most evident treatment options. Sackett et al. (1996) states, that evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.

6.7. Longitudinal Planning with the RPS-Form

To assess the effects of interventions demands a routine check of goal attainment by comparing outcomes with target problems (Steiner et al. 2002). As the sensitivity and reliability of the qualifiers used in the ICF Model is questionable, validated measurement tools should be used to additionally document precise outcome data for comparison and discussion.

Consequently, regular evaluation finally indicates whether the rehabilitation process is actually leading to obtain the therapy goal(s) or whether it must be adjusted and a new “problem-solving cycle” should be completed.

7. Conclusion

The protocol could be established by the use of relevant literature as well as the authors' experience in implementing the RPS-Form in two centres in Indonesia and Nepal (find the descriptive pilot study in Part 2).

Afterall, based on these facts, the authors would like to point out that the correct use of the RPS-Form can especially facilitate interdisciplinary work processes, realistic-goal setting, provide an overall picture of a patient's condition and support a systematic approach to rehabilitation tasks. Consequently, this protocol can assist the centres in Nepal and Indonesia, but also physiotherapy professionals and students in their future work on how to work with the RPS-Form.



PART 2: Descriptive Pilot Study



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Implementation of the RPS-Form in two centres in Indonesia and Nepal

A Descriptive Pilot Study

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ABSTRACT

Purpose: This study outlines and compares the practical experience with the RPS-Form in two centres in Indonesia and Nepal, where conceptual frameworks are still missing to guide health professionals in the rehabilitation process. Several aspects are presented, which turned out to be crucial in the implementation of the form. Hence, this study can assist in further steps for implementation in rehabilitation practice.

Methods: The RPS-Form was introduced in a two month period. This included a close observation of the clinical sites (3 weeks), the actual implementation (5 weeks) of the RPS-Form based on the Model of the ICF, and meetings to provide guidance and support with the practical use of the RPS-Form.

Results: The study presents a comparison of several aspects in the implementation of the form which took place in two different centres: acceptance of a new clinical tool, general information about the centres, participants involved in implementation, clinical planning, data collection, language, understanding of the concept, realization of implementation.

Discussion: In both centres, initial steps of implementation proved to be considerably important for interdisciplinary work processes and contributed to a more systematic approach to rehabilitation tasks and to be supportive for clinical thinking.

Keywords: *RPS, ICF, implementation, Indonesia, Nepal, practical experience*

INTRODUCTION

The importance of a well-formulated treatment approach in neurological rehabilitation plays a crucial role in the planning of interventions. In the western world, methodological and systematic thinking in clinical practice is already a common approach in the management of various health conditions. However, in poor countries such as Indonesia and Nepal, the need for clinical tools which guide clinical

thinking is still lacking and therefore demands further investigations in implementing practical frameworks. Van Brakel et al. (2006), for instance, mentions that in 1999, a large rehabilitation field programme in Nepal identified the need for an instrument to evaluate impact of rehabilitation interventions in rural conditions.

The Rehabilitation Problem-Solving Form (RPS-Form), as been introduced by Steiner et al. (2002), aims at guiding health care professionals to analyze patient's problems



by focusing on specific factors such as body structures and functions, activities, participation, personal factors and environmental factors which, in interrelation, may have influence on the person's health condition. The planning of health care interventions therefore focuses on establishing realistic goals which can be brought to light by using a framework such as the RPS-Form which is based on the Model of the International Classification of Functioning (ICF), published in 2001 by the World Health Organization's (WHO). According to Stucki et al. (2002), the ICF is designed to record and organize a wide range of information about health and health-related states. Furthermore, the authors say that in clinical context, it is intended for the use of assessment, matching interventions to specific health states, rehabilitation and outcome evaluation. As a consequence, a datasheet for documentation is necessary to be able to fill in important information about the patient's perspective, as well as the professional's identification of relevant factors. The RPS-Form therefore can be used as a tool for clinical assessment data collection. It enhances the patient-centred approach and the decision-making process. The RPS-Form gives a clear visual picture upon the patient's complaints and influencing factors on the person's health condition. The core problem can be emphasized and clearly linked with secondary influencing factors and disturbing factors which can have an impact on the patient and his or her approach in treatment. Keeping the idea of the Rehab-CYCLE (developed by Stucki and Sangha 1997) in mind, successful goal-setting can be achieved by a continuous process. This involves identifying the problems and needs of individuals, relating the problems to relevant factors of the person and the environment, defining therapy goals, planning and implementing the interventions, and assessing the effects of interventions using measurements of relevant variables (Steiner et al., 2002). The understanding of main issues concerned by the framework of the RPS-Form and the underlying principles of the ICF, though, demands a thorough reading and discussion. Maini et al. (2007) underlines the fact that the ICF is an extremely powerful instrument but that it cannot be adopted directly in clinical practice due to its size and to its multifactorial nature. Consequently, in the rehabilitation context, numerous ongoing studies are aimed at verifying alternative

ways of its implementation and of its applicability in routine evaluation (Maini et al. 2007).

The Model of the ICF and respectively the RPS-Form are of great importance because the RPS-Form is a tool that includes the documentation of the five main divisions (body structures/functions, activities, participation, personal factors and environmental factors), visualises the linking factors between core problems and influencing factors, it structures the reasoning for therapy goal-setting and it allows a thorough evaluation of therapy outcomes. However, attempts of implementation are still at its infancy and therefore demand practical experiences and comparisons between different users.

Especially the difficulty in implementing the RPS-Form and the underlying principle of the ICF Model in countries like Indonesia and Nepal comes along with a number of factors that have to be taken into account. Thus, this study wants to outline and compare the practical experience with the RPS-Form in two centres in Indonesia and Nepal, where conceptual frameworks are still missing to guide health professionals in the rehabilitation process. The results of first steps of implementation in the two centres were analysed and compared in regard to differences in clinical thinking.

This paper therefore presents several aspects which turned out to be crucial in the implementation of the form. Hence, this study can assist in further steps for implementation in rehabilitation practice.

METHODS

This descriptive pilot study targeted the two centres: Pediatric and Neurodevelopmental Therapy Centre (PNTC) in Solo, Indonesia, and the Self-Help Group for Cerebral Palsy (SGCP) in Kathmandu, Nepal. Members of the following specialties took part: six physiotherapists in the PNTC and two physiotherapists, one occupational therapist and one general therapist (not holding a specific degree but being involved in both physical and occupational therapy) in the SGCP centre. The project consisted of a preparatory phase, a main phase and a post phase.

Preparatory Phase

The preparatory phase took place in The Netherlands prior to excursion abroad.



Contact with the two centres was established and the intention of the project was explained. Both centres agreed on the introduction of the RPS-Form. Following an extensive research on the Model of the ICF and RPS-Form was conducted by the researchers with the goal of filtering relevant information for the implementation. A project plan was established, keeping in mind that planning might have to be adapted to clinical settings on site.

Main Phase

The main phase took place in the above mentioned centres, with a researcher located in Indonesia and a researcher located in Nepal.

Before the actual implementation was arranged, a close observation for three weeks of the clinical sites and their organization was necessary. This allowed the researcher to gain insight into the planning of the clinical site and to establish a good understanding, also related to cultural and environmental influences. The actual RPS-Form implementation (5 weeks) started with a presentation informing the participants about the application of the ICF Model and RPS-Form. An example sheet of a Cerebral Palsy (CP) case, known by the participants was handed out.

The participants were encouraged to include the acquired knowledge on ICF and RPS and to make use of the RPS-Form in clinical practice on all possible cases. Meanwhile the participants asked questions at any time and were provided with guidance completing the RPS-Form.

After the 5 week implementation period, the project was rounded up with a collection of feedback and an evaluation with all participants.

Post Phase

The post phase took place in The Netherlands. A direct comparison concerning relevant findings of implementation occurred. These results were analyzed with respect to the main findings pointing out the benefits of RPS-Form implementation coming along with difficulties in realization.

RESULTS

The initial introduction of the RPS-Form was a challenging transaction for the researchers as for the clinical sites and

participants involved in the study. The following points give an overview of the main differences or similarities concerning the use of the RPS-Form in the two centres.

It is important to mention that the outcome of this study is specifically related to the two centres, PNTC and SGCP, and thus does not represent the two countries Indonesia and Nepal in general.

The results (table 1) are based on the observation of several aspects which turned out to be crucial in the implementation of a three-month period.

Acceptance of a new clinical tool: Both clinics welcomed the implementation of the RPS-Form. Especially the idea of a new international used framework to guide clinical thinking found interest by the participants of the study. Subsequently, the need of improvement to facilitate the holistic approach for a better therapy outcome was appreciated. Both clinics reported the need for a structured framework to make already existing clinical thinking obvious and visible. That implies that the implementation of the RPS-Form was a good start for initial steps.

General information about the centre: In general both clinics were very different from each other. The clinic in Nepal was a non-governmental organization (NGO) working in a multi-professional team, whereby the clinic in Indonesia was a private clinic solely including physiotherapists. The co-workers in the SGCP were motivated to deeply understand the concept of the RPS-Form and asked specific questions. Contrary, the co-workers in the PNTC centre were rather slow in disputing with the RPS-Form.

Participants involved in implementation: Subjects involved in the PNTC centre were six physiotherapists. In the SGCP centre a multi-professional setting was present involving two physiotherapists, one occupational therapist, one general therapist.

Clinical planning: Concerning clinical planning in both clinics the treatment approach was similar and rather patient-centred with the attempt to match therapy to the child's need. Playful treatment approach and home visits were an important aspect. The contextual factors on the RPS-Form, ongoing with realistic goal-setting (by connecting different influencing factors with each other) for the child could therefore be understood as helpful and supporting for clinical planning. Even though, realistic goal-setting was present, there were difficulties in making outcome evaluation obvious on documentation.



Data collection: The researchers observed differences in the data collection among the clinics which influenced the conversion into the RPS-Form. The PNTC was lacking documentation. This included: patient's data was collected with an assessment sheet invented by the practice, being very different from the RPS-Form. Hence, it was a rather simple assessment documentation carried out by the head physiotherapist. Goals were not noted on paper and re-evaluations of rehabilitation process was difficult to measure due to lack of data documentation during the treatments.

In comparison, the SGCP centre noted data more extensively, containing: initial diagnose from doctor for admission of the child reported on a general assessment form (extensive anamnesis, assessment, counselling), further assessment by therapist (English formulated assessment sheet invented by the practice), documentation of activities after each treatment session by therapist (Main aspects: 1. Goals of exercises taught during the session, 2. Goals of new exercises added during the session, 3. Goals for next visit, 4. Remarks).

Both centres tried to use the RPS-Form as additional framework of data collection, resulting in increased workload and confusion of how extensively the form should be used.

Language: Another important fact to consider is the language barrier, the researchers encountered during their stay in Indonesia and Nepal. The participants involved in both centres were able to speak and understand moderate English. In the PNTC centre in Indonesia a translator was present and the RPS-Form was translated into Bahasa-Indonesia. In comparison, the SGCP centre in Nepal showed to be more accustomed to the use of English language in clinical practice, for instance already existing assessment forms were written in English.

Understanding of the concept: Thorough observation revealed that all participants had a good understanding of the concept concerning the patient-centered goal-setting. Though, difficulties in understanding the division of components (body structures and functions, activities and participation, personal and environmental factors), especially the distinction between activities and participation, led to confusion in both centres. The intended purpose of the RPS-Form was not understood entirely. Instead the form was rather perceived as a tool for

diagnosing than for collecting data about level of functioning and disability.

Realization of implementation: The RPS-Form implementation in clinical practice could only be realized to a little extent, where the centres got familiarized with the general idea of the RPS-Form.

Independent dealing with the RPS-Form was not achieved by the end of the 2-month period of implementation. However, both clinics had the request in further investigation.

DISCUSSION

The results of the project confirm that the implementation of the RPS-Form can indeed be helpful. However, a simplified version for initial steps was necessary. This recalls the statement by Maini et al. (2007) who underlines the fact that the ICF is an extremely powerful instrument but that it cannot be adopted directly in clinical practice due to its size and to its multi-factorial nature.

As a matter of fact, the implementation needed to be modified without taking coding, qualification and core sets into consideration. Therefore, it is important to mention that further implementation should be organized more detailed and in a steady process. This demands a simplified protocol including for instance a detailed introduction, examples on how to fill out the RPS-Form and a table of core sets for CP specifically for the PNTC centre and SGCP centre.

The question arose how to specifically express outcome data in the therapist's perspective, respectively to already existing measurement outcomes. This point of discussion coincides with Steiner et al. (2002) who believe that only well-defined ICF items, can ensure consistency in the use of terminology across disciplines, and inconsistency can pose barrier to effective communication. Looking back it would have been beneficial to organize a more interactive schedule, such as workshops, motivational events, assignments with deadlines to accomplish a better understanding of the concept along with the use of a common terminology.

Furthermore, due to lack of proper study material the introduction might have been too vague, which would explain that no obvious mind-shift occurred in most participants involved. In regard, effective



treatment sessions and patient-centered therapy according to the child's need was still lacking. For instance, in both clinics treatment for a CP child was often too long (2 – 3 hours) and not tailored to the attention capacity of a child. This factor might be clearly defined by the RPS-Form and therefore have an important impact on the setting of a therapy goal.

It is significant to remember that language barriers made it difficult for both parties (researchers and participants) to develop a good base for communication. This was a crucial obstacle interfering in discussions on how to work with the form. It is of question, whether the implementation, which was accomplished in English language, was understood clearly by every participant. For the future it would be necessary to translate the RPS-form and further study material.

In general, the implementation of such an extensive framework would demand a longer period of time to create a good fundamental base of knowledge. On one hand, more specific information about the centres is needed by the researchers to also be able to identify all aspects important in regard to cultural, environmental and religious aspects. This would enable the researcher to better deal with different ways of working and thinking in these centres. At the same time, the clinics would need more time to adapt to new habitual changes.

Even though, the comparison between the two centres was not consistent with each other, for example in Nepal the centre was a multi-professional setting and in Indonesia not, the results respectively showed important outcomes.

Initial steps of implementation proved to be considerably important for interdisciplinary work processes and contributed to a more systematic approach to rehabilitation tasks and to be supportive for realistic goal-setting and clinical thinking.

RECOMMENDATIONS

A longer time period is recommended for further implementation, including a translation of the RPS-Form and study material.

An interactive workshop would facilitate the implementation and support independent use of the RPS-Form.

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	INDONESIA Pediatric and neurodevelopmental therapy centre (PNTC)	NEPAL Self-Help Group for Cerebral Palsy (SGCP)
Acceptance of a new clinical tool	<ul style="list-style-type: none"> • Appreciation by the head of the organization to support clinical reasoning • Need for a structured framework • General interest 	<ul style="list-style-type: none"> • Appreciation by the head of the organization to support clinical reasoning • Need for a structured framework • General interest
General information about the centre	<ul style="list-style-type: none"> • Private clinic with 6 physiotherapists • Rehabilitation clinic with 2 treatment rooms • Intensive home visit 	<ul style="list-style-type: none"> • Non-governmental organization (NGO) • Only centre in Nepal specifically specialized in children with CP • Rehabilitation centre with 4 treatment rooms and integrated school • Multi-professional team with director and assistants, doctor, PT's, OT's, teacher and home visitors
Participants involved in implementation	<ul style="list-style-type: none"> • 6 Physiotherapists 	<ul style="list-style-type: none"> • 2 Physiotherapists • 1 Occupational therapist • 1 General therapist (specialized in PT, OT, ST)
Clinical planning	<ul style="list-style-type: none"> • Clinical reasoning present • Playful treatment approach • Close inspection of child's home environment • Attempt to match treatment to child's needs • Realistic goal-setting present, but difficult to make evaluation obvious, because no documentation of goal-setting present 	<ul style="list-style-type: none"> • Clinical reasoning in a multidimensional approach • Playful treatment approach • Close inspection of child's home environment • Attempt to match treatment to child's needs • Realistic patient-centered goal-setting present but difficult to make evaluation obvious, because no documentation of goal-setting present
Data collection	<ul style="list-style-type: none"> • Thorough assessment by physiotherapist • Data collection based on assessment sheet invented by the practice • Documentation of activities after each treatment session by therapist containing observations during the session, amount of exercises carried out and repetitions of each exercises noted • Goals not noted on paper 	<ul style="list-style-type: none"> • Initial diagnose from doctor for admission of child reported on general assessment form (extensive anamnesis, assessment, counselling) • Further assessment by therapist (English formulated assessment sheet invented by the practice) • Documentation of activities after each treatment session by therapist (Main aspects: 1. Goals of exercises taught during the session 2. Goals of new exercises added during the session 3. Goals for next visit 4. Remarks)
Language	<ul style="list-style-type: none"> • Moderate English knowledge • Translation of the RPS-Form into Bahasa-Indonesia • Translator present 	<ul style="list-style-type: none"> • Moderate English knowledge
Understanding of the concept	<ul style="list-style-type: none"> • Good understanding of the concept concerning the patient centred goal-setting • Difficulties in understanding the division of components in general • Difficulties to distinguish between Activities and Participation 	<ul style="list-style-type: none"> • Good understanding of the concept concerning the patient centred goal-setting • Difficulties in understanding the division of components in general • Difficulties in expressing outcome data in therapist's perspective • Difficulties to distinguish between Activities and Participation
Realization of implementation	<ul style="list-style-type: none"> • Request to understand the concept of the RPS-Form • Rather difficult due to insecurity and not enough time of monitoring and counselling • Too time-consuming • Request for steady and intensive implementation 	<ul style="list-style-type: none"> • Request to understand the concept of the RPS-Form • Rather difficult due to insecurity and not enough time of monitoring and counselling • Too time-consuming • Request for steady and intensive implementation

Table 1: Direct comparison of findings between the PNTC and SGCP centre.

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9. Appendix

See RPS-Form on next page: Appendix 1

Patient: child S Age: 12 yrs of age Form nr.: 1 Date: 01.07.07		Disorder/Disease: Di-plegic Cerebral Palsy í ↑		Medication: Sodium Valproate Coordinator: Mrs. X Rehab-Goal: WALKING		
Patient/Family Perception of Problems and Disabilities	<ul style="list-style-type: none"> - Tight muscles of extremities especially lower e. - Deformity of the feet - Previous hip dislocation - Speech difficulties - Toe-walking with flexed knees 		<ul style="list-style-type: none"> - Difficulties in walking - Difficulties in toileting - Difficulties in getting dressed 		<ul style="list-style-type: none"> - Child visits special school - Child has little contact to children from the neighbourhood - Child can not go somewhere independently without helping aid - Child likes to play with sisters 	
	Functions/Structures ß à		Activities ß à		Participation	
Health Professional Identification of Mediators Relevant to Target Problems	<ul style="list-style-type: none"> - Impaired muscle tone (spastic hamstrings and gastroc.) - Equinovarus - Hypermobility of right hip - Voice and speech functions (articulation functions) - Gait pattern functions (spastic gait) 		<ul style="list-style-type: none"> - Difficulties in: walking short distances (10 m) - Toileting only with assistance - Difficulties dressing for the lower extremities 		<ul style="list-style-type: none"> - Over-protection from the mother - Difficulties engaging in leisure activity and sports 	
	Personal Factors			Environmental Factors		
<ul style="list-style-type: none"> - Coping strategies: +2 - Motivation: +4 - Social background: -2 			<ul style="list-style-type: none"> - Products and technology for indoor and outdoor mobility and transportation (no wheelchair) - Immediate family (good support and cooperation) - Health services, systems and policies (minimal support provided) - Poor living conditions 			

Figure 7: Modified RPS-Form including the documentation of rehabilitation goals presenting a child with CP.