

# How Well the ICF Concepts of Functioning, Capacity and Performance are known Amongst the Finnish Specialists in Physical and Rehabilitation Medicine?

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## Abstract

**Purpose:** To investigate how well Finnish specialists in physical and rehabilitation medicine (PRM) are familiar with ICF-based concepts of functioning, capacity, and performance.

**Methods:** In February 2013, the 5-minute survey was conducted amongst participants at the annual meeting of the Finnish Society of PRM. The 54 participants (response rate 81%) were asked to define the difference between concepts of functioning and capacity/performance. They were also asked to give some examples of medical tests related to these concepts. Two independent researchers evaluated the responses basing on appropriate definitions presented by ICF and researchers own experience.

**Results:** Of respondents, 83% were able to define the concept of functioning accordingly to the ICF framework as a complex relationship between health condition and contextual factors. Instead, only 24% were capable to describe concept of capacity/performance as an ability to execute single tasks in a standard or current environment. Of respondents, 40% emphasized the physical dimension of performance. Over 80% of respondents suggested at least one test for assessment of the level of performance, but only 57% introduced an example of tests for measuring limitation of functioning.

**Conclusions:** The ICF-based concepts of functioning and performance were not widely used amongst Finnish physicians specialized in PRM even if the responses to survey reflected the biopsychosocial way of understanding the functioning.

**Keywords:** Functioning; Capacity; Performance; Participation; Test; Assessment; Rehabilitation

## Introduction

Functioning, capacity, and performance need to be described by using common terminology and tests. To perform this task, WHO introduced the International Classification of Functioning, Disability and Health (ICF) as an extension to the International Classification of Diseases (ICD). In 2001, ICF was endorsed by all members of the World Health Organisation (WHO) as a standardized classification of health and health-related domains including body structures and functions, activity, participation, and environmental factors [1,2]. Also the recommendations of the United Nations recognized ICF as a valuable tool to ensure the rights of people with disabilities. ICF alongside with ICD supports a comprehensive understanding of health of an individual person as well as health of entire society when allocating medical and rehabilitation resources. By its standardized category structure, ICF also offers a unified scientific base for research and assessment of rehabilitation effectiveness between different societies and medical specialties [1,3-5].

Unlike conventional biomedical model, ICF represents the biopsychosocial comprehensive understanding of functioning. According to the biomedical model, functional restriction is a person's static attribute, which can be improved by treating disease or trauma [6,7]. The biopsychosocial model defines the difficulty in functioning as a disproportion between person's health status and demands arisen from his actual life situation [8,9]. This disproportion can be relieved by taking into account not only a health status but also environmental and personal factors, such as work situation, family, hobbies, motivation, and religion. When using this model, level of functioning should be assessed by measures and scales different from those used in biomedical

model [8]. ICF, including both classification and quantitative scale, offers unified criteria for classifying and assessing functioning and performance [1,2,10].

The acceptance of ICF into practice has been delayed [11] probably due to its complexity (ICF consists of more than 1000 different categories) and deep-rooted conceptions of functioning and performance widely used by medical professionals and medical literature. The ICF was translated and published in Finnish 10 years ago. During this time, numerous conferences, projects and courses on the subject have been arranged. However, it is unknown if medical professionals are familiar with the basic concepts of the ICF model. In February 2013, we conducted a 5-minute survey among participants at the annual meeting of the Finnish Association of Physical and Rehabilitation Medicine (PRM) with ICF been the main theme of the scientific session. The purpose of the study was to clarify how familiar Finnish specialists in PRM are with basic concepts of the biopsychosocial ICF-based model of functioning.

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## Methods

Approximately one fourth of all licensed Finnish specialists in PRM (54 of 174) took part in the annual meeting of Finnish PRM Association in February 2013. The questionnaire was given to all participants before the scientific presentations. The time to answer was limited to 5 minutes and responses were gathered before the beginning of the scientific session. The response rate was 81% (44 of 54). One response was excluded as it was returned after the scientific session and one was excluded because it was given by a main speaker who was not a physician. The responses given by the researchers were also accepted. Thus, 42 responses were included for further analysis.

The anonymous questionnaire was developed by the authors. The survey was written in Finnish. We asked for the respondent's workplace (university hospital, other public hospital, health center, private hospital, rehabilitation center, insurance company, private medical center), specialty (resident or consultant), and experience in PRM (year of the graduation as a consultant or year of the beginning of residency). The respondents were asked to explain briefly how they define the concepts of "functioning" and "performance". The actual question was: "What does the following term mean to you: a) "functioning", b) "performance"? They were also asked to suggest a few examples of tests which can be used as instruments of measuring level of functioning and performance. The exact questions were: "By what tests (1-2 examples) the level of functioning can be assessed?" and "And what tests for the level of performance"? The demographic data were collected through fixed questions. Items regarding level or description of functioning and limitation were open-end questions.

The ICF-based concept of functioning was understood as an umbrella term describing all body structures and functions, activity and participation [1]. Conceptions of performance and capacity were joined in one Finnish term "suorituskyky" describing person's ability to perform a single task in assisted or unassisted real life situation. No specific method of analyzing the responses was used. Two independent researchers evaluated the responses basing on appropriate definitions given by WHO [1] and their experience.

## Statistical analysis

Two researchers who were familiar and experienced in the use of the ICF evaluated independently responses by giving the responses a value of zero, one, or two depending on how close the response was to the ICF framework: 0 –not true or not defined, 1 –response is inaccurate but resembles the ICF model, 2 – defined properly according to the ICF. Inter-rater agreement was assessed by calculating Cohen's kappa. For the kappa analysis, the values 1 and 2 were considered "yes" and value 0 was considered "no". The final score for each response was calculated as an average of estimates given by two researchers. Thereby, the final score was 0.5 or 1.5 if estimates were diverse. For further analysis, the final scores 1.5 and 2 were understood as fitting to the ICF framework, score 1 as unclear, and scores 0 and 0.5 as improper. The results were introduced as percentages. Inter-rater agreement between two researchers was 83% (Cohen's kappa 0.79). All analyses were performed using Microsoft Excel® 2010.

## Results

Of 42 respondents, 40 (95%) were consultants and 2 (5%) residents. Of the respondents, 26 (66%) worked in public hospitals including those 13 (31%) who worked in university clinics. Only one (2%) worked in local health center, six (14%) in private rehabilitation centers, two (5%)

in a public social insurance institution, and five (12%) at private offices. One respondent did not specify his workplace. The respondents' work experience in the field of PRM was on average 16.9 years (0–39, SD 10.2).

The response distribution is shown in Figure 1. The majority of respondents (83%) were able to define the concept of functioning according to the ICF framework or their responses were close to that (5%). On the contrary, only 24% were able to describe the concept of performance accordingly to the ICF model. Of all responses, 40% were completely deviant from the ICF definition of performance.

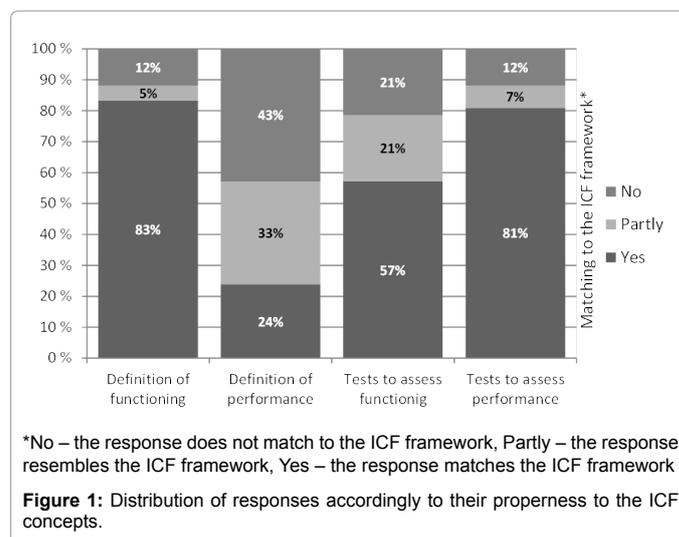
Over 80% of the respondents were able to suggest tests for assessing level of performance which was considered by the researchers as matching to the ICF. In case of tests for level of functioning, 57% gave answers considered matching to the ICF framework and 21% close to that.

The spectrum of suggested tests was wide with no clear predomination of any particular tests. The examples of tests suggested by the respondents in order to describe functioning were: RAND-36, ergometry, Oswestry Back Pain Questionnaire, Barthel, FIM, sit-up test, Roland-Morris Index, muscle strength tests, SF-36, WOMAC, Peak expiratory flow, and 10-meter walking test. Only four respondents mentioned ICF as a tool for describing functioning. When introducing tests for assessment of performance, 40% of the respondents emphasized the physical dimension of performance.

## Discussion

The majority of participating specialists in PRM understood the concept of functioning as a comprehensive biopsychosocial entity and the concept of performance as a narrower ability to function accentuating physical dimension of performance. These findings are consistent with conventional entrenched traditions in Finnish rehabilitation literature and practice [12,13]. Responses diverted moderately from the ICF-based understanding of these concepts.

The study was performed as a 5-minute survey without revealing to respondents the purpose of the study. This might be a weakness but also a strength of the study. We may speculate that responses could have been more consistent with the ICF framework if ICF would have been mentioned in the questionnaire or the respondents would have had more time to complete the survey. However, our intention was



to evaluate the spontaneous responses of specialists in PRM which would reveal their basic understanding of the studied conceptions. We assumed that these spontaneous definitions are the ones which physicians use in their clinical practice. The analysis of responses was based on a subjective judgment given by the authors. The use of more precise and documented linking instruments, for example suggested by Cieza et al. [14], might improve the precision of the assessment. Specialists in PRM represent well physicians working in the Finnish rehabilitation field and they are often responsible for education of other specialties and allied professionals working at the rehabilitation arena. The concepts of functioning and performance are core concepts for the PRM specialty. The study sample was approximately one fourth of all Finnish specialists in PRM. As response rate was high, we believe that our results represent well the entire community of Finnish physiatrists.

It was expected that specialists in PRM were able to define coherently the concept of functioning and that this definition would resemble the concept of ICF framework. The modern Finnish and international literature has widely described the functioning from a biopsychosocial point of view [3,6,7,11]. The definitions of concepts of “capacity” and “performance” vary, however, in literature widely. In Finnish medical literature, the concept of performance is often understood as a narrow ability to perform physical tasks in controlled situations [12]. The use of concept of psychological capacity is, in turn, rare. In the case of social performance, Finnish literature usually does not use this term at all but substitutes it by a different Finnish expression which can be understood as “ability”. For instance, the Finnish search on Google Scholar showed 420 results for “physical performance”, 90 for “mental performance” or “psychological performance”, and only 10 for “social performance”. Also in the present study, the majority of the respondents found tests used for measuring level of physical performance. Instead, introducing tests for assessment of broader functioning was more difficult, as it is not possible to assess the functioning of person by using narrow laboratory tests. We were surprised that only four of the respondents mentioned ICF as a tool for describing functioning.

Further research may reveal such important issues as reasons for delay in ICF dissemination, levels of ICF awareness, and most efficient methods by which this awareness can be improved across different specialties and societies.

Our results probably reflect the common situation in both Finnish and international rehabilitation field- the need for ICF is recognized but its practical use is experienced to be too complex. Thus, the basic concepts of ICF have remained at a theoretical level for many

rehabilitation professionals. In our study, there was no search for right or wrong answers. Instead, we were interested to know if the basic concepts of ICF, been at the midpoint of interest in the rehabilitation field for 10 years, were adopted by Finnish rehabilitation professionals. It seems that there is still a long way to go before the standardized and undoubtedly necessary ICF classification is widely and unconditionally accepted for rehabilitation practice.

## References

1. Yaruss JS, Quesal RW (2006) Overall Assessment of the Speaker's Experience of Stuttering (OASES): documenting multiple outcomes in stuttering treatment. *J Fluency Disord* 31: 90-115.
2. WHO (2012) International Classification of Functioning, Disability and Health (ICF) Homepage. World Health Organisation.
3. Cerniauskaite M, Quintas R, Boldt C, Raggi A, Cieza A, et al. (2011) Systematic literature review on ICF from 2001 to 2009: its use, implementation and operationalisation. *Disabil Rehabil* 33: 281-309.
4. Jelsma J (2009) Use of the International Classification of Functioning, Disability and Health: a literature survey. *J Rehabil Med* 41: 1-12.
5. Wiegand NM, Belting J, Fekete C, Gutenbrunner C, Reinhardt JD (2012) All talk, no action?: the global diffusion and clinical implementation of the international classification of functioning, disability, and health. *Am J Phys Med Rehabil* 91: 550-560.
6. Barnes C, Mercer G (2010) Competing models and approaches. *Exploring Disability*. (2 Edn.) Cambridge: Polity Press 14-42.
7. Oliver M, Barnes C (2012) The Importance of Definitions in the Disability Debate. *The New Politics of Disablement*. (2nd edn) Basingstoke: Palgrave Macmillan 11-31.
8. Peterson DB (2005) International Classification of Functioning, Disability and Health: An Introduction for Rehabilitation Psychologists. *Rehabilitation Psychology* 50: 105-112.
9. Schuntermann MF (2005) The implementation of the International Classification of Functioning, Disability and Health in Germany: experiences and problems. *Int J Rehabil Res* 28: 93-102.
10. Boonen A, Stucki G, Maksymowich W, Rat AC, Escorpizo R, et al. (2009) The OMERACT-ICF Reference Group: integrating the ICF into the OMERACT process: opportunities and challenges. *J Rheumatol* 36: 2057-2060.
11. Stucki G, Ewert T, Cieza A (2002) Value and application of the ICF in rehabilitation medicine. *Disabil Rehabil* 24: 932-938.
12. Viikari-Juntura E (2009) *Physical and Rehabilitation Medicine*. (4th edn) Helsinki: Kustannus oy Duodecim.
13. Rissanen P, Kallanranta T, Suikkanen A. *Kuntoutus* (2008) Rehabilitation. (2nd edn) Helsinki: Duodecim.
14. Cieza A, Geyh S, Chatterji S, Kostanjsek N, Ustün B, et al. (2005) ICF linking rules: an update based on lessons learned. *J Rehabil Med* 37: 212-218.

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