



## A TRAINING TOOL FOR INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH APPLICATION BY PHYSICAL THERAPY STUDENTS

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### ABSTRACT

**Objective:** To identify the potential contribution of an ICF-based tool in physical therapy academic training.

**Method:** A set of ICF diagram was analyzed where students from a clinical school at a private university in Curitiba, Paraná, expressed physiotherapeutic evaluations results.

**Results:** Body Functions and Body Structures categories were predominant. The anamnesis included categories of Activities and Participation and Environmental Factors, but they were not explored in detail by the students.

**Conclusion:** The diagram favors ICF application but a more comprehensive use of components needs to be done to standardize and systematize the language.

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## INTRODUCTION

The health of world population has been a key objective in the last decades due to the ageing population and the increase in prevalence of chronic health conditions (Stucki and Bickenbach, 2017; WHO, 2016). These characteristics have broadened vision beyond biological health and have come to integrate with how individuals experience health from the social point of view and the environment in which they live (Stucki and Bickenbach, 2017; Stucki, 2016). Thus, data relating to diseases constitute a part of the information on an individual's health (Bickenbach *et al.*, 2017). In 2001, the World Health Organization (WHO) created the International

Classification of Functioning, Disability and Health (ICF) to understand the functionality and repercussions of an individual's state of health from the components of Body Functions, Body Structures, Activities and Participation, and Environmental Factors (WHO, 2001). ICF allows any individual to be classified, whether or not they have a disease (OMS, 2015). Following its creation, WHO member countries were urged to use the classification (WHO, 2001; Brasil, 2012). One the objectives one the ICF, according to the National Policy of Functional Health (Brasil, 2011), is its use as an educational tool in the elaboration of educational programs for the awareness and accomplishment of social actions. The ICF represents a consensual model and has been

increasingly used in different fields of study and work (OMS, 2015; Ruaro *et al.*, 2012; Cerniauskaite *et al.*, 2011). The associated use of ICF in clinical assessments, for example, would allow the identification and qualification of health conditions (Brochow *et al.*, 2004; Cieza *et al.*, 2002). International and nationally educational institutions have also begun to make use of the operationalization of the classification as an object of professional training (Swiss Paraplegic Research, 2016; Andrade, 2010; Maini *et al.*, 2008; Jelsma and Scott, 2011). Andrade (2010) incorporated the use of the ICF in education based on the Law of Guidelines and Bases of National Education and also in the National Curricular Guidelines to propose a strategy to evaluate students in the physical therapy course from the perspective of the ICF. However, these did not include the use of the ICF by students. Silva *et al.* (2016) discussed the characteristics of physical therapy training in relation to the process of adoption and functional application in the rehabilitation of orthopedic patients. After analyzing medical records of physical therapy students, the authors noticed reports and descriptions frequently related to deficiencies of body functions rather than activities, participation and the influence of environmental factors on patients' functionality. In 2009, the Federal Council of Physical Therapy and Occupational Therapy (COFFITO), through Resolution 370, decided that physiotherapists will adopt the ICF in their respective institutional competences as a statistical, research, clinical, social, and educational tool (COFFITO, 2009). In May 2012, Brazil was urged to use the ICF under Resolution 54.21, 2001, of the WHO (WHO, 2001; Brasil, 2012). However, there is still a lack of scientific research involving ICF in education and as a teaching/learning tool. The present study aimed to report how the ICF model has been operationalized in the educational context of a clinical school of physiotherapy.

## METHODS

The study was approved by the local Ethics Committee under the number 2.081.225 and was carried out observing traumaorthopedic evaluation diagrams of students from the last year of physiotherapy graduation. The study took place at a clinical school of physiotherapy of a private university in the city of Curitiba, Paraná. Clinical findings were routinely recorded through diagrams, which covered evaluation topics including identification, clinical diagnoses or complaints, anamnesis, and physical examination. The diagrams developed between March and May, 2017, were analyzed with regard to the structure, organization, clarity, and content of the categories of the ICF and the identification of the selection of qualifiers. A typical diagram chart was selected for this report (Figure 1). From this analysis, improvements were proposed with regard to the content and structure of the diagram (Figure 2).

## RESULTS AND DISCUSSION

From this analysis, it was noticed that students selected representative categories of the ICF whenever they observed changes in or limitations to the physiotherapeutic evaluation items. This reflects the fact that the evaluation is influenced by the biomedical model, also reported by Silva *et al.* (2008). The biomedical model, known as linear model, seeks to classify health conditions from symptoms, thereby focusing more on the disease and less on the health potential (Araújo, 2013). From the results, it should be noted that the ICF records the

absence of difficulties (qualifier 0), allowing individuals to be followed throughout their life cycles. The records allow students to identify the moment of functional change with a qualifier change and allow the patient to visualize their functionalities and disabilities over a period of time. It was noticed that the students mostly selected the categories related to the Body Functions component. This was also found in other analyzed diagrams in which the Body Structures component was prevalent. This could be because the evaluation was heavily based on inspection, physical tests, and specific tests that led to a clinical physiotherapeutic diagnosis. Body Functions is also a component highly presented in instruments linked to ICF. The same finding was reported by Silva *et al.* (2008). This situation happens in studies that link clinical instruments, which were built based on a linear model, to ICF (Philbois *et al.*, 2016; Fréz *et al.*, 2014; Nicol *et al.*, 2016; Forget and Higgins, 2014).

In the item on anamnesis, an open question accessed the difficulties and limitations of the patient's daily life. The students could better explore this question using all the categories of the classification, especially the components of Activities and Participation and Environmental Factors (Cieza and Stucki, 2005; Glässel *et al.*, 2014). This could help to delineate the treatment and determine the patient's day-to-day actions. Although the present study has used classification in secondary and tertiary care, intervention and rehabilitation procedures respectively, it can also be used in primary care (prevention). At all levels of care, ICF can play a fundamental role as an educational tool in the training of health professionals, being in undergraduate and postgraduate (Snyman *et al.*, 2012). Thus, the biopsychosocial model can be approached from various angles, and the information collected by the selected categories can guide the students and serve as targets for the follow up of the treatment and for the orientation of the activity execution or adjustments in the environment, avoiding painful relapse. By increasing the range of data collected, as recorded by Stallinga *et al.* (2012) in the evaluation of patients with multiple sclerosis, it is possible to identify more points that need intervention, when using the biopsychosocial, functional model, instead of the biomedical model.

With regard to the presentation of the selected diagram data, it was noticed that there was a sequential order of the evaluated events and that the selected categories interacted with the evaluation items. However, in others, the categories were presented separately and did not interact with the altered item. This finding demonstrates the difficulty of understanding the ICF in order to complement the evaluation and to standardize the language used. Although the ICF is focused on standardization, its use is not standardized in the context of the study.

The awareness and the training of students becomes a key objective to improve the understanding of the classification and its insertion in the clinical routine. Jelsma and Scott (2011), observed a better development of plans of conduct, intervention, better perception about the influence of environmental and personal factors and a better understanding of the domain activities and participation of the CIF model after the training of physical therapy students for pediatric physical therapy. An ICF qualifier can be selected from a question generated during an interrogation of the patient, from the patient's report, or from information from medical records, clinical examinations, and complementary examinations

(Cieza *et al.*, 2002; Cieza e Stucki, 2005). In this way, a code is generated, which characterizes the patient's condition. In the selected diagram, it was not possible to identify how the diagram qualifiers were chosen. The literature suggests that one should record the form that was used to access the information. It is therefore important for students to appropriate the literature relevant to the ICF and to document the form of access to the information to substantiate and record their findings (Cieza *et al.*, 2016). By doing so, it would also be possible to follow the data of the same patient evaluated by different students,

since they would use the same framework. A proposal to arrange the data in the diagram is contained in the respective components of the classification: Body Functions, Body Structures, Activities and Participation, and Environmental Factors. This proposal is represented in two excluded in the present report (Figure 2). These templates contain the same information. They are merely arranged in different formats proposed by the diagram program called SimpleMind and could be the target of a pilot application for improvement.



Figure 1. Typical diagram chart operationalized in the educational context of a clinical school of physiotherapy

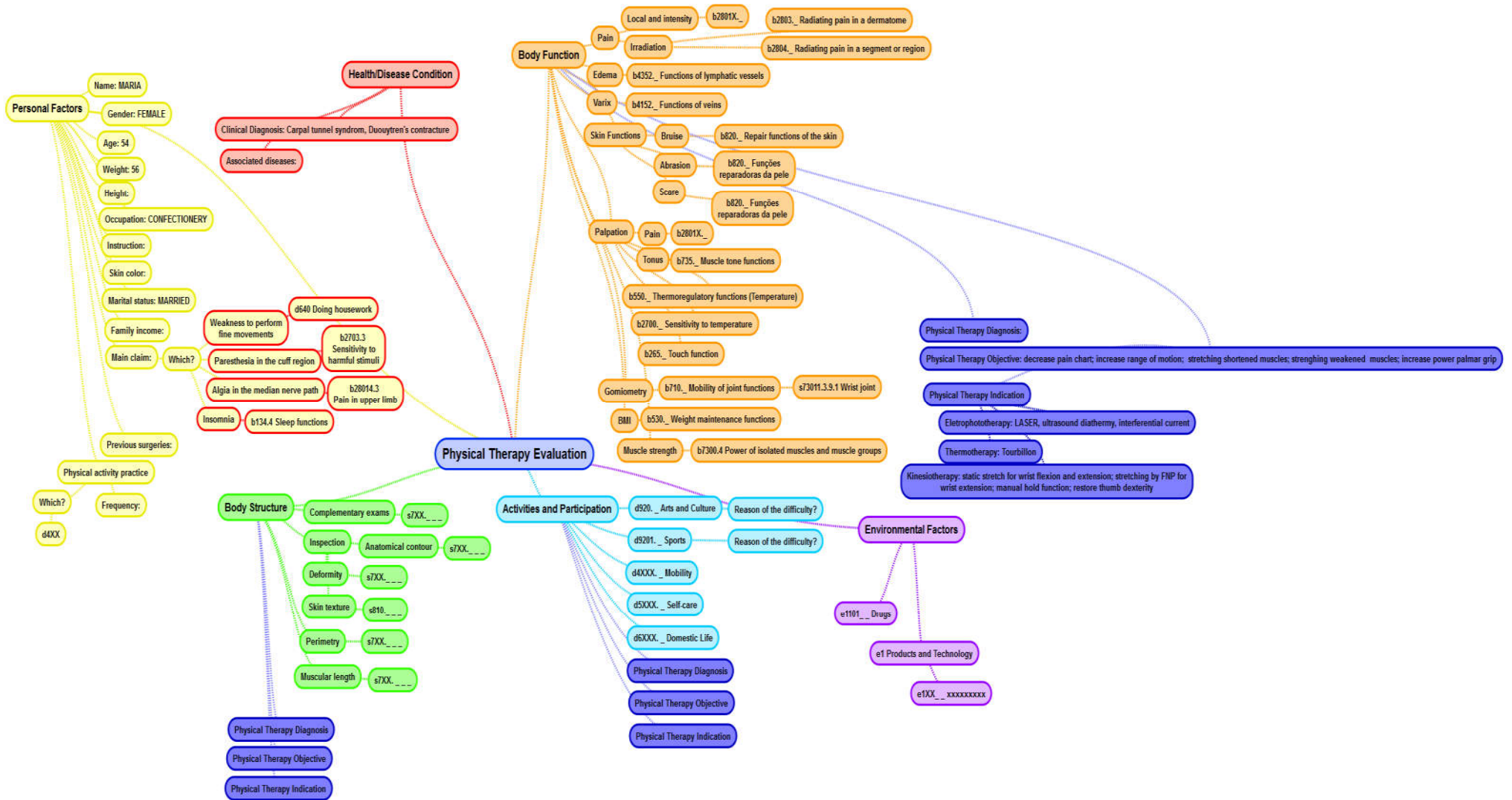


Figure 2. Diagram improvements with regard to the content and structure

The new format needs to consider the goals and needs of the patient. The use of ICF as an educational tool for a clinical clinic adds a systematization of the collection of health information, regardless of health condition and life cycle, excluded; also facilitates the learning process and provides standardization of assessment and treatment proposal delineation. In addition, it favors an integration and the operationalization of the contents received during the academic formation, as well as for different areas we provide the possibility of integrating relative content as disciplines, as well as different health areas (Stephenson and Richardson, 2008). The use of the Classification model in order to address patient care can directly influence the process of remodeling the education of health professionals (Geertzen *et al.*, 2011) as well as increasing the work of the multiprofessional team (Allan *et al.*, 2006), which can lead to in benefits to the health systems and the health conditions of the population. The present study was performed without interfering with the usual functioning of the clinical school, observing only the trauma-orthopedic evaluation diagrams. If other assessments such as neurology were analyzed, perhaps other components of classification would be further explored, since social and environmental limitations are more easily identified.

## Conclusion

The diagram favors ICF application but a more comprehensive use of components needs to be done to standardize and systematize the language. It is believed that the suggested adjustments will favor the application of the ICF benefiting students and teachers in the operationalization of all components of the classification. In addition, the proposed diagrams would allow the same patient, evaluated and accompanied by different students throughout a treatment period, to have his or her information collected in a systematized manner. This model can act as a pilot application to further improve the context of the study. The analysis resulted in considerations for the improvement of learning in the context of the present study, emphasizing the importance of using the ICF in a way that is complementary to the evaluation already made and that generates a systematized and standardized language.

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