

The use of the International Classification of Functioning, Disability, and Health in Brazil

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ABSTRACT

Objective: The objective of this article was to analyze the use of the International Classification of Functioning, Disability and Health (ICF) in Brazil. **Method:** The study was carried out on the following databases: LILACS, MedLine, SciELO, IBECs and Cochrane. Seventy-five articles were identified, published between the years 2003 and 2011, from which 17 studies were selected. The analysis method was the integrative review. **Results:** The ICF has been used in studies in Brazil, especially within the last five years and mostly in the southern and southeast regions. The samples and types of dysfunctions were diverse and the ICF and the core sets were applied, particularly the Activity and Participation component, in harmony with other instruments and qualitative studies. **Conclusion:** The ICF has been applied to Brazilian research in a diverse manner with reference to the study outline. Its use has been highlighted as advantageous in the approach to human functionality characteristics. The classification was used to describe disabilities in the studies analyzed. Interference of environmental factors and subjective dimensions not always covered by other instruments are addressed in the ICF, which directs us to a new perspective in understanding the health of individuals and populations.

Keywords: International Classification of Functioning, Disability and Health, Review Literature as Topic, Brazil

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INTRODUCTION

The International Classification of Functioning, Disability and Health (ICF) is a classification from the World Health Organization that proposes a model to approach human functioning. Its goal is to provide a unified and standardized language of terminologies for the areas of health, work, and law, among others, as well as work structures to describe health and the states related to it.¹

The ICF provides a broad coding system for information on the health characteristics of people in the context of life situations and reflections on the surrounding environment in their lives,^{1,2} allowing its users numerous possibilities of application. It offers 1,454 categories, with a holistic approach to human functioning, which makes it an instrument of expansive reach due to such great descriptive power. However, this is one of the greatest challenges to its practical use, since all the categories should be evaluated in all people.³

To increase its applicability, tools based on the ICF must be developed to attend to the needs of its users.⁴ Evaluation instruments are being developed by the WHO for application in different cultures.^{1,2} In addition, Core Sets, a group of categories that describes the typical functioning of people with a certain health condition, are current strategies.^{3,5} They are part of a project led by researchers at the Ludwig-Maximilians-University (Munich, Germany), in association with other countries, including Brazil.⁶

In view of these possibilities, investigating how the ICF has been used in Brazil gave rise to the motivation for this study.

We consider the study relevant for it is current theme, in which there is urgency to implement strategies to facilitate and disseminate the use of the classification and to better enable its adoption in the country.

OBJECTIVE

The objective of this study was to analyze the use of the International Classification of Functioning, Disability and Health in Brazil.

METHODS

For the development of the study, we followed the flowchart suggested by an integrative review.⁷ An electronic search was made at the Virtual Health Library (VHL), integrated method, Health Sciences in General, that in-

cluded the databases of the Latin American and Caribbean Literature on Health Sciences (LILACS), International Health Sciences Literature (MedLine), Scientific Electronic Library Online (SciELO), *Índice Bibliográfico Español en Ciencias de la Salud* (IBECs), and Cochrane Library.

Articles published between 2003 and 2011 were selected. The temporal cut was related to the time the Portuguese version of the ICF was published in Portuguese language countries. The following keywords were used in the search: International Classification of Functioning, Brazil, Classification. It is noteworthy that the descriptor 'International Classification of Functioning' was not introduced in the DeCS/Bireme immediately after the publication of the ICF Portuguese version.

The inclusion criteria adopted were: articles whose objective was to use the ICF as a classification measurement in the states of health or disease in Brazil, available in the complete text format in Portuguese, Spanish, and English. The exclusion criteria used were: to be a previous communication, a literature review, or a theoretical review.

The paired search proceeded in the following manner: two researchers searched separately on the mentioned databases. After selecting the material, the search was validated for the studies found, where 75 titles were identified. After reading the abstracts, it was verified that 38 were articles, two were theses, and one, a dissertation. From among those, 38 were selected to compose the accessible sample of the study. The next stage was to re-read the abstracts. Finally 17 studies that applied/used the ICF were arrived at.

The texts were annotated so as to show the main attributes of each production (year of publication, place of research, periodical, method used - type of study, participants and health condition, ICF domains and instruments applied in tandem, objectives, main results, and breadth of the conclusions).

RESULTS

The International Classification of Functioning, Disability, and Health has been a theme of studies in Brazil, especially in the last five years (Chart 1). Many of the studies analyzed were developed in the southern and southeastern regions of the country.⁸⁻¹⁵ There was a predominance of studies with quantitative and transversal approaches.^{8,11,16-20} There is diversity in the samples studied and dysfunctions involved, as much in relation

to the quantity as to the quality of the cases involved. Dysfunctions such as spinal cord injury, cerebral palsy, stroke, encephalic cranial trauma, and Parkinson's, as well as chronic low back pain, fibromyalgia, diabetes mellitus, AIDS, and urinary incontinence,^{8,9,11-15,17-21} have been classified via the ICF in Brazil.

The way ICF components are used was analyzed; more than half (10) the studies used body functions, activities and participation, and environmental factors together. One study integrated functions, body structures, and activity and participation. In the other studies, the ICF was applied in only one component. Activity and participation is the component most used among Brazilian studies. In addition, in relation to the ways of applying them, 10 of the 17 studies applied the ICF components associated with relevant codes, with the use of qualifiers (Chart 2).

As for the use of the brief lists, four studies included the ICF Core Sets. Three studies applied the Core Sets for low back pain, generalized chronic pain, and diabetes mellitus.^{10,13,21} One study proposed the preparation of a Core Set to encompass the essential items in the classification of AIDS.¹⁴

The use of the ICF in tandem with evaluation instruments was also analyzed. Six studies used parallel or linking instruments (relationship) as a basis for using the ICF. One of them applied Roland-Morris (RMQ) and SF-36 in tandem with the ICF low back pain Core Set.¹⁰ Another study analyzed the correlation between the Roland-Morris (RMQ) and physical capacity tests such as the Timed up & Go and Walking Tests of 15.24 meters with the ICF for chronic low back pain.²¹

Nickel et al.¹¹ investigated the occupational performance of Parkinson sufferers based on the Canadian Occupational Performance Measure (COPM) and its classification in the ICF domains. The authors considered the correlation between the COPM and the ICF to be effective in relation to the description of the performance difficulties stemming from Parkinson's in the execution of the activities.

Another study²² proposed to establish a connection between the ICF and King's Health (KHQ), a questionnaire that evaluates the quality of life of people with urinary incontinence. This study examined females who underwent surgery for cervical cancer, whose main dysfunction was urinary incontinence. For such, the linking rule (relationship) was applied between the KHQ and the ICF. The King's Health Questionnaire contains psychometric properties to analyze the quality of

Chart 1. Characterization of the scientific production in the area of Health Sciences in Brazil that used the International Classification of Functioning, Disability, and Health (ICF), 2012

Authors	Year	Location	Method	Subjects/Location	Instruments
Vall J, et al. ⁸	2011	Curitiba/PR	Transversal study	109 individuals with spinal cord injuries from different health care reference centers	ICF
Machado W, Scramin A ⁹	2010	Southern and Southeastern regions of Brazil	Exploratory, descriptive, from the field, and qualitative	8 males, aged between 22 and 45 years, tetraplegic by traumas for 4 to 18 years, residing in the south and southeast regions/At home	Semi-structured interview (Content analysis/Bardin)
Machado W, Figueiredo L ¹⁶	2009	Brasil	Case study, experimental, quantitative	1 male/At home	ICF
Riberto M, et al. ¹⁰	2011	São Paulo/SP	Not specified	29 cases of chronic low back pain/Physical Medicine and Rehabilitation Institute, Clinics Hospital, FMUSP	Low back pain Core Set, Roland Morris (RMQ), and SF-36
Ocarino JM, et al. ²¹	2009	Belo Horizonte/MG	Not specified in the study	30 cases of chronic non-specific low back pain, both genders, School-clinic of a University Center	Roland Morris Questionnaire and physical capacity tests - timed up & go and walking 15.24 m
Nickel R, et al. ¹¹	2010	Curitiba/PR	Transversal study	446 subjects with Parkinson's/Institution	Canadian Occupational Performance Measure (COPM)
Castaneda L, Plácido T ²²	2010	Brazil	Cieza's linking methodology between questionnaires ²⁵	-	King's Health Questionnaire
Faria C, et al. ¹⁷	2010	Minas Gerais, Brazil	Transversal, exploratory	32 individuals with hemiparesis sequelae due to stroke, both genders, 20 years old or older, able to walk with or without prosthetics/Community in the city of Belo Horizonte	Quadriceps muscle torque (dynamometry), Geriatric Depression Scale (GDS), natural and maximum (Flansbjer protocol) gait speed (GS), timed up & go and walk test, and Berg's balance scale; Nottingham health profile, and specific quality of life scale for stroke
Brasileiro IC, et al. ¹⁸	2009	Fortaleza/CE	Descriptive, quantitative and transversal	32 children with cerebral palsy, both genders/Early stimulation Nucleus	ICIF
Brasileiro IC, Moreira TMM ¹⁹	2008	Fortaleza/CE	Descriptive, quantitative and transversal	32 children with cerebral palsy, both genders/Early stimulation Nucleus	ICIF
Brasileiro IC, et al. ²⁰	2009	Fortaleza/CE	Descriptive, quantitative and transversal	32 children with cerebral palsy, both genders/Early stimulation Nucleus	ICIF
Lima A, et al. ²⁴	2010	Minas Gerais, Brazil	Qualitative	11 patients, both genders, between 18 and 60 years old with various health conditions/Maria Amélia Lins Hospital from the Fundação Hospitalar de Minas Gerais (Minas Gerais Hospital Foundation)	Questionnaire to collect social and demographic information. Application of life grid techniques, semi-structured interview and filling in of weekly journal. Content analysis (Bardin)
Fenley JC, et al. ¹³	2009	São José do Rio Preto, São Paulo/SP	Not specified in the study	79 patients with starting age for Type 2 Diabetes Mellitus of over 30 years old, without other complications/Unimed- Preventive Medicine Group - São José do Rio Preto (39 cases) and Ambulatório de Especialidades do Hospital de Base de São José do Rio Preto (Specialties Outpatient Clinic from the Base Hospital of São José do Rio Preto) (40 cases)	SALSA scale (Screening of Activity Limitation and Safety Awareness), ²⁶ and Social Participation Scale
Riberto M, et al. ¹²	2008	São Paulo/SP	Não especificado	29 patients with fibromyalgia that concluded the rehabilitation program at the Divisão de Medicina de Reabilitação (DMR) (Rehabilitation Medicine Division)	Comprehensive and brief ICF Core Sets for generalized chronic pain
Buchalla CM, Cavalheiro TR ¹⁴	2008	São Paulo/SP	Systematic review. Evaluation: direct interview	Stage I: 87 articles/concepts selected in systematic literature review, and 66 equivalent with the ICF categories; Stage II: 42 HIV positive patients, 28 males and 14 females, between 18 and 45 years old, under treatment with anti-retrovirals for at least six months/Centro de Referência e Treinamento em AIDS (AIDS Reference and Training Center), Secretaria de Estado da Saúde (State of Health Secretary), city of São Paulo	Categories and subcategories of the ICF identified in the studies on quality of life of AIDS patients under treatment
Castro CLN, et al. ¹⁵	2008	Rio de Janeiro/RJ	Not specified	38 patients - 9 males and 29 females with Diabetes/Serviços de Nutrologia e de Medicina Física e Reabilitação do HUCFF-UFRJ (Nutrology and Physical Medicine and Rehabilitation Services at HUCFF-UFRJ)	Brief ICF Core Set for Diabetes Mellitus
Sabino GS, et al. ²³	2008	Belo Horizonte/MG	Qualitative	Medical records of 30 patients, aged between 13 and 71 years/Medical office specializing in gait analysis and biomechanics of lower limbs	Semi-structured interviews

Chart 2. Use of the ICF Components by the studies

ICF components approached in the studies	Direct application	Indirect application
Body functions, activities and participation, and environmental factors	5	4
Body functions and structures, activity and participation	1	-
Activities and participation	2	3
Environmental factors	1	-
Body functions	1	-
Total	10	7

life of people with urinary incontinence and deals with concepts referring to activities and participation.

In another study that analyzed the causes of falls in hemiparetics due to stroke, Torque exams were applied to the quadriceps muscles by dynamometry, Geriatric Depression Scale (GDS), natural and maximum gait speed (GS) exam (Flansbjer protocol), timed up&go test, Berg balance scale, Nottingham Health Profile, and a specific quality of life scale were also applied.¹⁷

Also, as for the use of scales, another study applied the Screening of Activity Limitation and Safety Awareness (SALSA) and Social Participation, developed based on the ICF to measure the limitation of activities in individuals affected by leprosy, diabetes, and other peripheral neuropathies, to evaluate the limitation of activities and social participation in individuals with type 2 diabetes mellitus.¹³

The ICF is also being used in qualitative studies. In one of them, questionnaires were used to collect social and demographic information, as well as a life grid that gathers information on the life trajectory of people, allowing the creation of a chronological diagram and the incorporation of the experience of the disease in the patient's life history.¹¹ The analysis of interviews with 11 patients confirmed the existence of an interaction between the ICF components and the life grid.

Another study discusses the application of semi-structured interviews, filling in a weekly journal, and content analysis, according to Bardin, beginning with the perception of three phases of the patients' lives (phase before the disease/accident, acute phase of the disease/accident, and current phase);⁹ the search was carried out through information that showed interactions between those phases with the components of the biopsychosocial model.

DISCUSSION

The ICF proposal to objectify the operationalization of the biopsychosocial focus by adopting the multi-dimensional model of functioning and disability,¹ classifying health components, and identifying what constituted it is quite attractive and opportune to provide an understanding of people's and populations' health.

In many parts of the world, the ICF is being more and more used and in Brazil it is no different. The quantity and methodology aspects of the studies that used the ICF in Brazil were analyzed in this review. However, the methodological strategy used to search for articles based on the descriptor "International Classification of Functioning" may not have taken into consideration articles published before its inclusion in the DeCS/Bireme, which may have favored more recent studies.

The classification is being used as recommended by the WHO, either with brief lists previously prepared or with listings made by convenience. Its use seems to be consolidating in Brazil. In general, the lists seem to be appropriate to use,¹² however, from among those used in the studies, the one that analyzed a group of patients with diabetes mellitus, whose quality of life was seriously affected, has categories listed in the instrument that are not habitually evaluated.¹⁵

Various aspects of the ICF use in Brazilian studies were revealed such as the aptitude to elucidate limitations imposed by diseases, very scarce in the literature,⁸ usefulness in the preparation of nursing diagnostics, and preparation of therapy plans,^{9,10} better understanding of states of functioning of people with neurological, and musculoskeletal dysfunctions.^{10,19-21} In addition, the information obtained from its use is pertinent to the preparation of new public policies,⁸ and to

redirect the hegemonic biomedical model still persistent in Brazilian health care.

The ICF is designed to describe functioning and disability, as much in individuals as in populations,¹ in consonance with the proposal of the Brazilian *Sistema Único de Saúde* - SUS (Unified Health System) regarding attention to overall health, where each citizen must be understood in his or her biological, psychological, and social dimensions. A relevant aspect to be considered in this review is that the ICF was used almost exclusively to describe disability situations.^{8-12,15,17,18,20,21} Such a finding could be due to the strong tendency of health care towards the biomedical model, still predominant in the country.

The ICF is being applied in tandem with various quantitative^{10,17,21} and qualitative^{9,11,22} evaluation instruments. The standardized instruments seem to describe what people are capable of doing in a standard environment. The classification goes beyond ability when it considers the performance under environmental influence.¹ In the ICF both domains are considered. What is seen is that most studies using the ICF in tandem with other instruments have indicated that the classification approaches various areas in the life of individuals, that are not always covered in specific questionnaires.²² Farias et al.¹⁷ considered that the theoretical and standardized ICF model allows a wider understanding of a health problem, as in the case of falls for hemiparetics. The diverse areas of life are not always considered in specific questionnaires.^{9,22} The importance of considering the subjective dimension of disability from the perspective of the subject, and not merely tracking the functional decline many times obtained in quantitative studies, may be elucidated with the use of the ICF.⁹

CONCLUSION

The ICF is being used more frequently in Brazilian studies and its use is perceived as advantageous to address the characteristics of human functionality. The findings in the studies reveal that situations such as subjective dimensions and the intervention of environmental factors are not always covered by evaluation instruments, however they are included in the ICF and indicate a new perspective from which to understand the health of people and populations due to its

multidimensional model of functioning and disability. The classification that is designed to describe functioning and disability was used in most studies to describe disability situations. Such findings could be due to the strong tendency of health care towards the biomedical model that is still predominant in the country.

Due to the descriptor "International Classification of Functioning" having been introduced into the DeCS/Bireme after the publication of the Portuguese version of the classification, the review may have preferred studies published more recently, which may have influenced the selection of the sample.

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