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ORIGINAL RESEARCH

Knowledge and use of the ICF in clinical practice by physiotherapists and occupational therapists of Minas Gerais

Conhecimento e uso da CIF na prática clínica por fisioterapeutas e terapeutas ocupacionais de Minas Gerais

Conocimiento y uso de la CIF en la práctica clínica por fisioterapeutas y terapeutas ocupacionales de Minas Gerais

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ABSTRACT | This study aims to evaluate the profile and knowledge of physiotherapists and occupational therapists from Minas Gerais about the International Classification of Functioning, Disability and Health (ICF) application in professional practice, trying to understand the reason for the underutilization of this universal instrument in Brazil. Observational and cross-sectional study was conducted using an online questionnaire prepared by specialists. An email was sent to all physiotherapists and occupational therapists enrolled in the Regional Council of the 4th Region. Of 22,121 emails, 1,313 were answered. 53% of the sample had graduate certificate, 65% had between two to ten years of experience, and 62% reported that clinics and patients' houses are the places where they work. 72% of the professionals knew the ICF and 84% correctly answered the meaning of the acronym. However, 71% of professionals are unaware of the fields that make up this classification. The first contact with the ICF happened during graduation to 50% of professionals, and 28% had never had contact with ICF. 74% reported not using it in clinical practice. However, 82% of the participants believed that the use of ICF is viable in clinical practice. Most professionals had graduate certificate, worked in clinics and patients' homes and, although most of them claim to know the ICF, the largest portion of the sample reported they did not use this classification in their professional lives, even though believing the ICF use is feasible. The lack of knowledge about the ICF prevents professionals from complying with the recommendations of the World Health Organization (WHO), the Brazilian National Health Council (CNS) and COFFITO (Brazilian Federal Council of Physical Therapy and Occupational Therapy) on the adoption of this instrument in exchange of information about health and clinical practice.

Keywords | International Classification of Functioning, Disability and Health; Physiotherapy; Occupational Therapy; Surveys and Questionnaires.

RESUMO | O objetivo deste estudo foi avaliar o perfil e conhecimento dos fisioterapeutas (FT) e terapeutas ocupacionais (TO) de Minas Gerais sobre a Classificação Internacional de Funcionalidade, Incapacidade e Saúde (CIF) e sobre a sua aplicação na prática profissional, na tentativa de se compreender o motivo da subutilização deste instrumento universal, no Brasil. Foi realizado estudo observacional e transversal que utilizou um questionário online elaborado por especialistas. Uma correspondência eletrônica foi enviada a todos os FT e TO inscritos no Conselho Regional da 4ª região. Das 22.121 correspondências eletrônicas enviadas, 1.313 foram respondidas. 53% da amostra têm pós-graduação, 65% tinham entre dois a 10 anos de experiência, e 97% relataram que as clínicas e domicílio dos pacientes são os lugares onde trabalham. 72% dos profissionais sabiam o que era a CIF e 84% responderam corretamente o significado da sigla. No entanto, 71% dos profissionais

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desconhecem os componentes desta classificação. O primeiro contato com a CIF aconteceu durante a graduação para 50% dos profissionais e 28% nunca haviam tido contato com a CIF. 74% relataram não usá-la na prática clínica. Entretanto, 82% dos participantes acreditam que ouso da CIF é viável na prática clínica. Embora a maioria dos profissionais afirme conhecer a CIF e acreditar na viabilidade de sua utilização, fica evidente que o conhecimento dos profissionais sobre este importante instrumento ainda é limitado. O desconhecimento sobre a CIF impede que os profissionais cumpram as recomendações da Organização Mundial da Saúde (OMS), Conselho Nacional de Saúde (CNS) e Coffito sobre a adoção deste instrumento na troca de informações na saúde e na prática clínica.
Descritores | Classificação Internacional de Funcionalidade, Incapacidade e Saúde; Fisioterapia; Terapia Ocupacional; Inquéritos e Questionários.

RESUMEN | El objetivo de este estudio fue evaluar el perfil y conocimiento de los fisioterapeutas (FT) y terapeutas ocupacionales (TO) de Minas Gerais sobre la Clasificación Internacional de Funcionamiento, Discapacidad y Salud (CIF) y sobre su aplicación en la práctica profesional, en el intento de se comprender el motivo de la infrautilización de este instrumento universal en Brasil. Se realizó un estudio observacional y transversal que utilizó un cuestionario online elaborado por especialistas. Un e-mail fue enviado a todos los FT y TO inscritos en el Consejo de la 4ª Región. De los 22.121 e-mails enviados, 1.313 fueron contestados. El 53% de la muestra tiene posgrado, el 65% tenía entre dos a diez años de experiencia, y el 97% relató que las clínicas y domicilio de los pacientes son los lugares donde trabajan. El 72% de los profesionales sabían lo que era la CIF y el 84% respondieron correctamente el significado de la sigla. Sin embargo, el 71% de los participantes desconocen los componentes de esta clasificación. El primer contacto con la CIF ocurrió durante la graduación para el 50% de los profesionales y el 28% nunca habían tenido contacto con la CIF. El 74% relataron no usarla en la práctica clínica. Sin embargo, el 82% de los participantes creen que el uso de la CIF es viable en la práctica clínica. Aunque la mayoría de los profesionales afirme conocer la CIF y creer en la viabilidad de su utilización, es evidente que el conocimiento de los profesionales sobre este importante instrumento todavía es limitado. El desconocimiento sobre la CIF impide que los profesionales cumplan las recomendaciones de la Organización Mundial de la Salud (OMS), del Consejo Nacional de Salud de Brasil (CNS) y de COFFITO (Consejo Federal de Fisioterapia y Terapia Ocupacional de Brasil) sobre la adopción de este instrumento en el intercambio de informaciones en la salud y en la práctica clínica.
Palabras Clave | Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud; Fisioterapia; Terapia Ocupacional.

INTRODUCTION

The International Classification of Functioning, Disability and Health (ICF) is an instrument that describes health and health-related states of people and populations in a unified and standardized manner[1,2]. The ICF was established by the World Health Organization (WHO) in December 2000 after a long revision process of the International Classification of Impairments, Disabilities and Handicaps (ICIDH), initiated in 1993. In May 2001, during the 54th World Health Assembly, the ICF was approved and has been, ever since, a component of the WHO international classifications family, whose best-known and used member by health professionals is the International Statistical Classification of Diseases and Related Health Problems – – 10th Revision – (ICD-10)[1,3].

Despite being a classification tool, the ICF is not restricted to this purpose, since its multidimensional and multidirectional model (FIGURE 1), based on the biopsychosocial approach, represents a new way of thinking about human functionality and disability[3-5]. In addition, the ICF has recognized the importance, not only in the field of Health, but also in the fields of Education, Research, Sociology, Pedagogy, Politics, Labor, Social Security, among others[1,5,6].

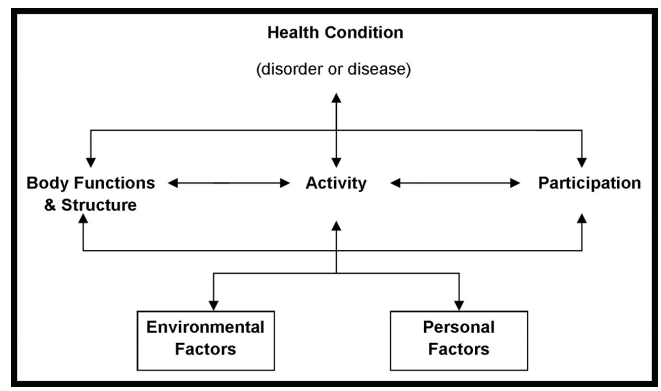

Figure 1. Model of functionality, according to the ICF
Source: WHO (2002)

The ICF is didactically organized in two sections. The first section is called: "Components of Functionality and Incapacity" and encompasses the Body Components (classification for body functions and classification for body structures) and the Components of Activity and Participation (for classification and activities and classification for participation). All components of the first section can be expressed in negative or neutral terms. The second section is called: "Components of Contextual Factors" and involves the Environmental Factors and Personal Factors, which can be expressed in positive or negative terms[3]. Note that all these constructs interact with each other[7].

In clinical practice, the data classified by the ICF can guide the clinical thought and the decision-making done by health professionals, especially when considering that the integrative model proposed by the ICF comprises equivalently the biological, social and individual perspectives that can interfere with the health/disease process[7,8]. For professionals involved with the rehabilitation process, such as, physiotherapists, and occupational therapists, ICF use is even more important, after all these professions historically deal with functionality and its dysfunctions[4]. For physiotherapists and occupational therapists, the ICF use is very important, since it can contribute to the adoption of a holistic practice focused on the functional potentialities of the individual[4,6,7]. The adoption of ICF in practice can also contribute to better clinical management, solvability and humanization, based on the real needs of patients, as determined by WHO[2,9]. In addition, language standardization could strengthen the participation of both professions within medical teams[9]. ICF use is the main gateway to health care based on the biopsychosocial model and the needs of patients, as determined by WHO[1]. The universal and standardized language can provide support for more individualized, assertive, resolutive and holistic decision-making and thus improve patients' adherence to the proposed treatments[1,3]. It can also allow the comparison of the activities carried out in different services, helping the adequacy of the services provided[1,3].

Regardless of its relevance that extends beyond clinical practice, and the existence of recommendations, determinations and/or regulations of higher instances, such as the World Health Organization (WHO), the Brazilian National Health Council (CNS) and the Brazilian Federal Council of Physical Therapy and Occupational Therapy (COFFITO), the use of ICF by Brazilian physiotherapists and occupational therapists is still incipient and limited[10-12]. Note that, on the 54th Assembly, all WHO member countries, including Brazil, signed a document committing to use the ICF in the exchange of information on health, clinical practice, among other purposes[1].

Despite the evident noncompliance with resolutions and recommendations from different backgrounds, until now no study was conducted in Brazil in order to evaluate the knowledge and ICF use by physiotherapists and occupational therapists in Brazil. In this sense, this study is justified mainly by the fact that if knowing the profile, assessing knowledge, and understanding the way in which the ICF is used by a large number of professionals, we can identify factors that may be contributing to this delay of 16 years in the adoption of the ICF in Brazil.

Thus, the objective of this study was to evaluate the profile and knowledge of physiotherapists, who work in the state of Minas Gerais, about the ICF and its application in professional practice.

METHODOLOGY

This is a cross-sectional study. The obtaining of interest data was conducted by an online questionnaire with multiple choice questions drawn up by experts in the field (Figure 2). The questionnaire was developed in a specific universal platform for creation and application of electronic questionnaires.

To access the questionnaire, an electronic link was sent to all 20,286 physiotherapists and 1,835 occupational therapists enrolled in Minas Gerais state. The link to the questionnaire was also circulated through social media and fan pages of CREFITO[4], to achieve the greatest number of professionals. When accessing the link, the professionals could find information about the purposes of the research, nature of their participation, confidentiality, and about the risks and benefits inherent to the research through an informed consent with the questionnaire. In accordance with resolution 466/12 of the Brazilian National Council of Health, this study was approved by the Committee of Ethics in Research with Humans, by the number 871,639.

The questionnaire was made up of 10 multiple choice questions regarding professional training and basic knowledge about the ICF. On some issues, the participant could select more than one answer.

The data relating to the responses were real-time recorded by online software used for the development of the questionnaire. Descriptive statistics were used for the characterization of the professionals and their replies obtained by the questionnaire. The data are presented as measures of frequency, percentage and absolute number for categorical variables. For better understanding, they were also presented in graphic format and tables. All analyses were performed using the software GraphPad v. 5.0.

1. What is your graduation course?
( ) Physical Therapy ( ) Occupational Therapy
2. Which is your higher degree?
( ) Graduation ( ) Specialization
( ) Master's degree ( ) Doctoral degree
3. How long have you graduated?
( ) Less than 2 years ( ) Between 2 and 5 years
( ) Between six and 10 years ( ) Between 11 and 15 years
( ) Between 16 and 20 years ( ) More than 20 years
4. Where do you act professionally?
( ) Clinics ( ) Office
( ) Hospital ( ) University
( ) Primary Healthcare Unit ( ) Patient's house
5. Do you know the ICF?
( ) Yes ( ) No
6. What is the meaning of the acronym "ICF"?
( ) International Physiotherapy Classification
( ) Integrated Physical Therapy Clinics
( ) International Classification of Functioning, Disability and Health
( ) International Classification of Function, Activity and Participation
7. When was your first contact with the ICF?
( ) Never ( ) Graduation
( ) Specialization ( ) Masters or Doctorate
( ) Clinical Practice ( ) Courses
8. Do you use the ICF? If yes, in which area?
( ) I do not use ( ) Clinic
( ) Research ( ) Teaching
9. Among the options below, which is not a component of ICF?
( ) Activity of daily living ( ) Activity and participation
( ) Body functions ( ) Body structures
( ) Environmental factors
10. Do you believe that the use of ICF is feasible in clinical practice?
( ) Yes ( ) No
Justify your answer: _____

Figure 2. Content of the online questionnaire
Source: Prepared by the authors (2018)

RESULTS

It was sent 22,121 emails to physiotherapists and occupational therapists in the state of Minas Gerais, Brazil. Of these, 1,313 were answered by the professionals. Among the respondents, 85% were physiotherapists and 15% were occupational therapists. The number of professionals who responded to the questionnaire amounted to 6% of rehabilitation professionals enrolled in the professional state board.

The characteristics about the formation of the professionals are shown in Figure 3. We observe that about half of the sample who participated in the study had some specialization course (53%), and only a few (1%) reported having a doctorate. Regarding the time after the degree formation, approximately 65% of professionals had two to ten years of formation. From 2051 responses, the majority (62%) showed that most of the professionals work in clinics or patients' houses.

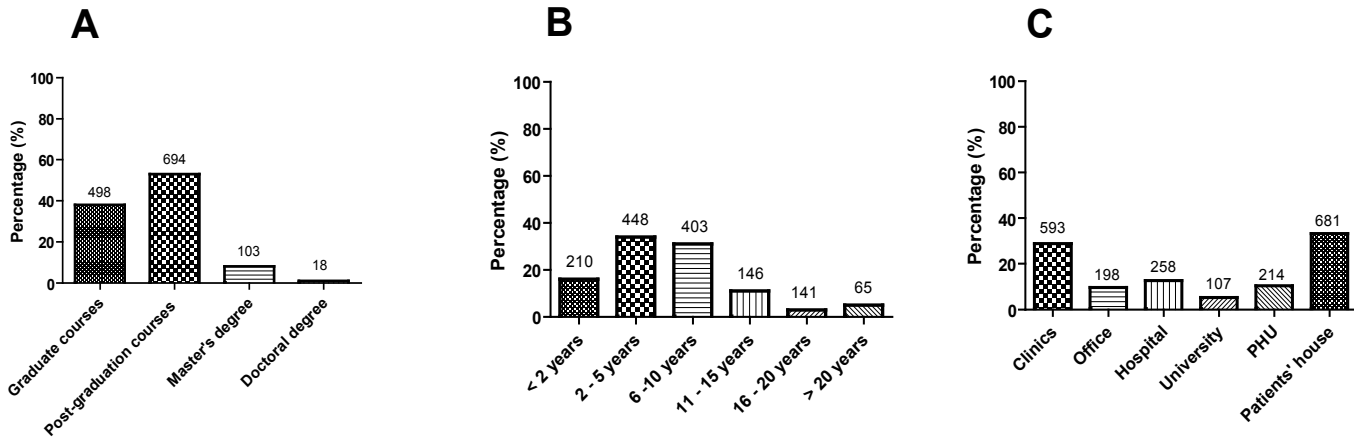

Figure 3. Characteristics of the study participants (n=1,313), regarding (A) professional education, (B) time after degree formation, and (C) professional practice location (C). The question addressed by Figure 2C allowed more than one alternative was chosen by the participants; the total answers to this question was 2,051. * Primary Healthcare Unit (PHU)
Source: Prepared by the authors (2018)

Regarding the knowledge of the professionals about the ICF, most of them (72%, 944 professionals) knew the instrument. Additionally, 1,090 participants (84%) knew the meaning of the acronym ICF. However, a question that sought to know if the participants had familiarity with the classification, requesting that they defined, from the options, which was not a field of ICF, showed that most professionals (71%, 936 professionals) selected incorrect options. Detailed answers to this question are shown in Figure 3.

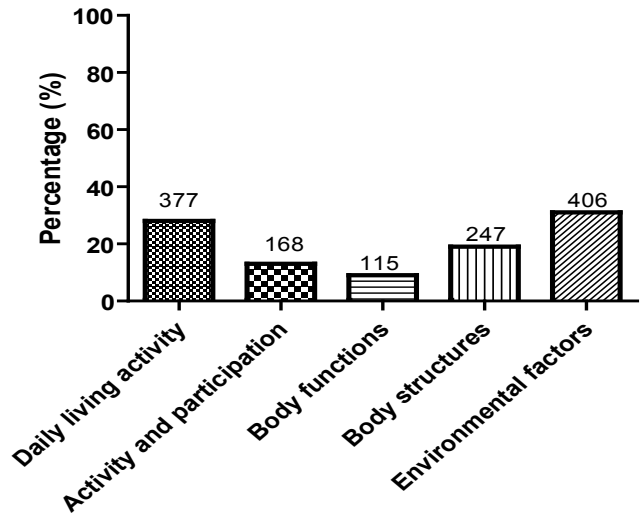

Figure 4. Frequency and absolute numbers of responses (n=1,313) to the question: "Among the options below, which is not a domain of ICF?"
Source: Prepared by the authors (2018)

According to most participants, the first contact with the ICF happened during undergraduate studies (50%). Importantly, more than a quarter of the professionals (28%) reported that they had never had contact with ICF. Figure 5 A describes when the first contact of professionals with the classification was. Regarding the ICF use, 74% reported not using it, 21% reported using the ICF in clinical practice, 6% reported using it in research, and 5% reported using it in teaching practice (Figure 5B). Finally, 82% of the participants believed that the use of ICF is viable in clinical practice.

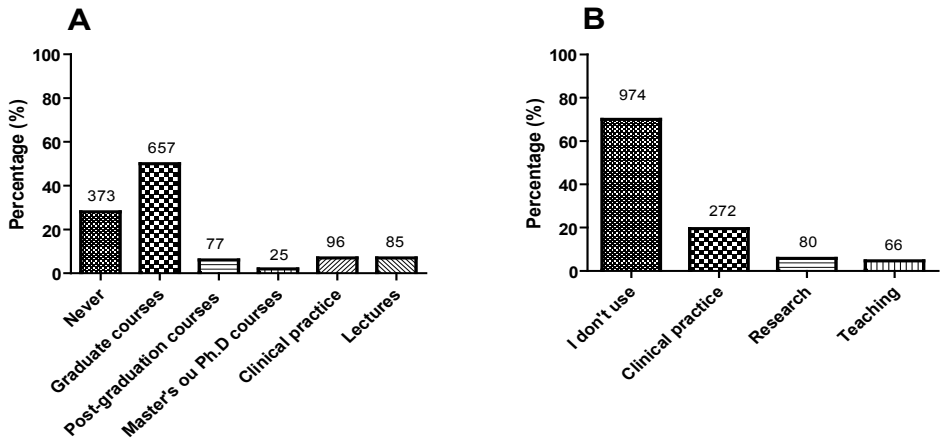

Figure 5. Answers of the participants regarding: (A) when the first contact with ICF happen, and (B) where the professional use the ICF. The question addressed by Figure 4B allowed more than one alternative was chosen by the participants; the total answers to this question was 1,392

Source: Prepared by the authors (2018)

DISCUSSION

This was the first study in Brazil that demonstrated the profile of a large sample of rehabilitation professionals and evaluated the knowledge and use of ICF in the clinical practice of these professionals. The ICF use is recommended by WHO (Resolution 54.21/2001), determined by CNS (Resolution 452/2012) and regulated by COFFITO (Resolution 370/2009) as a statistical instrument, research tool, clinical tool, social and pedagogical policy[10-12]. However, we observe that in Brazil there is a noncompliance with such resolutions, and that the ICF is practically neglected in the thought process and clinical decision-making by several health professionals[13]. This study sought to identify factors that hamper the adoption of ICF by physiotherapists and occupational therapists in one of the major states of the Federation by the analysis of the profile and knowledge about the ICF, as well as its practical use by professionals.

Firstly, it is necessary to emphasize that the ICF use should not be restricted to health professionals, let alone to physical therapists and occupational therapists. According to the WHO, ICF should be used by several fields, such as insurance, social policy, labor, education, health, social security, general development of legislation and environmental modification[1]. The ICF is still considered an appropriate instrument for the development of national and international human rights law and is incorporated into the uniform rules for equal opportunities to persons with disabilities[1].

Only physiotherapists and occupational therapists were included in this study and their area of practice was not investigated. Most professionals had a specialization course, and professional practice location in clinical and patient houses. The results indicated that although most of the professionals have reported they knew the ICF, most of the sample was not using the ICF in their professional life, although they believed that its use is possible. These findings corroborate those of a systematic review that demonstrated, despite of how comprehensive and interesting for clinical practice the theoretical context of the ICF is, that little is known about its actual use[14].

The results of this study demonstrated that 62% of professionals have some specialization. Despite physiotherapy and occupational therapy are relatively new professions, we observed the increasing of technical and scientific improvement[15]. However, the portion of professionals who only attended the undergraduate studies is also considerable. Notice that only 16% of professionals on this study have graduated in less than two years and, therefore, most of the professionals already had sufficient time to complete some specialization. We observed that only 1% of the sample was composed of professionals with doctorate. Coury and Vilella[16] pointed out an increase of 90% in the number of doctors with a degree in physiotherapy in the last decade[16]. This fact is added with the findings of this study: among professionals who continued their studies, 85% chose a *lato sensu* course. Another important fact is that professionals rarely (8%) have their first contact with the ICF during graduate

studies degree (6% in *lato sensu* and 2% in *stricto sensu*), 50% of professionals had their first contact at undergraduate studies degree. Note that many professionals (28%) have never had contact with the ICF. This may be a result of the following events: professionals who graduated before 2001, before the adoption of the ICF; professionals who have not sought for continuing education; or even those who sought to improve professionally, but who did not receive information about the ICF.

There is little information in the literature regarding knowledge and use of the ICF in professional practice. We should emphasize that this study reached the main places of professional performance, not restricted to professionals working in universities, which theoretically have greater knowledge about the ICF. In a study of 587 Canadian occupational therapists, 70% of the professionals knew ICF somehow, and about 30% of them reported they used the classification in clinical practice[14]. However, in a study of 22 physiotherapists in Israel, most professionals had familiarity with the concepts of ICF and about two-thirds of these professionals reported that used it, even partially, in their clinical practice[15]. These previous findings[17,18] agreed with the results of this study, which revealed that, although 72% of participants reported to know the ICF, only 30% used it in some way in their professional practice. The literature reports that the ICF use in clinical practice for rehabilitation professionals may be unclear and the significant use of the classification becomes difficult[19].

There is still a great gap between the understanding of the potential applications of ICF as a whole and its implementation in the clinical settings[17]. In this study, most professionals (82%) believed that the use of the ICF is feasible in clinical practice. Previous study[17,18], confirming these results, showed that the ICF in practice is not used by rehabilitation professionals. However, the main reasons for non-implementation of the ICF in the clinical practice are related to the extent and complexity of this instrument, a problem already recognized by the WHO[1]. The need of change in thinking is another complicating factor, since the disease-centered model is still prevalent[5,19,20]. We suppose that the medical model based on the disease still prevails in the academic programs, however, this is just a hypothesis. The methodology of this study was not developed to evaluate this question.

Professionals tend to have certain inability to integrate ICF into their daily routine, mainly by the following reasons: the high workload, the superficial knowledge of the instrument, the need to invest time and money to learn and use the ICF[18,21-23]. Thus, aiming to expand the ICF use, the adoption of simple measures is suggested, such as training towards both academic and rehabilitation professionals[13]. The development of simple *softwares* and apps that help the professional during the process of encoding the structures and functions, activity and participation, and environmental factors involved in the context of health conditions presented by patients in clinical practice are also suggested. We should consider which part of the sample may have knowledge about the ICF and still prefer not to use it in their clinical practice for any of the reasons listed above, other than unfamiliarity. Another limitation is that the applied questionnaire addresses more knowledge related to ICF than the reasons why professionals do not use it. Thus, future studies are needed to address this question more directly. However, the high percentage of people who have never had any contact with the ICF, together with the considerable number of professionals who do not use it, by itself, already justifies research on the professionals' knowledge about this instrument, since without the proper knowledge it is not possible to use a tool of this magnitude.

According to an integrative literature review that investigated the panorama of the ICF use in the Brazilian context, the use of the classification is still incipient, however there are signs of a growing interest in its use[13]. The authors pointed out that the ICF growth potential is compatible with the demand of knowledge generated by it, in both public and private sectors[13]. However, the process of the ICF use in Brazil is delayed by at least a decade. The ICF was approved and recommended in May 2001 at the 54th World Health Assembly, and Brazil was one of the signatories[1]. In 2009, the Brazilian Federal Council of Physical Therapy and Occupational Therapy (COFFITO) established a COFFITO 370/2009 resolution that decides on the use of ICF by physical and occupational therapists[11]. In 2012, the Brazilian National Health Council and the Ministry of Health approved the resolution 452/12 that solves that ICF should be used in public and private services in Brazil[12]. In addition, the ICF use can provide a better understanding between members of the multidisciplinary team and patients, besides leading physical therapy and occupational therapy to a stronger position within the medical community[9,24].

In clinical practice, ICF can be used in different ways, such as: codification of data collected during evaluation, periodic evolution of patients' health status, follow-up of interventions and treatments results, health information exchange, reference and contraindication services reference, comparison of the resolution between different services and analysis of the compatibility of treatments with specific conditions, among others[1-3]. In this study, respondents were only asked whether or not they use the ICF in clinical practice. No question addressed on how those who already used the tool do it in clinical practice. In future studies this should be investigated.

Note that the professionals included in this study work one of the most developed and populous states in the country, and the reality described may not reflect the situation by professionals in other regions of Brazil. According to Ruaro et al.[13], the Federal University of Minas Gerais is the Brazilian institution that most appears in publications in international journals, and the second most prevalent among national journals[13]. In this sense, we believed that the study sample may have had more contact with ICF, and, thus, the reality of other Brazilian states may be even worse. Therefore, studies covering samples representing the reality of other regions of the country are suggested.

The non-use of ICF generates damages to patients, after all, the treatment based only on the diagnosis of the disease is not able to meet all patient needs[7]. It is known that patients with the same ICD have different functionality and disability, which should guide the individualized treatment[5,7]. The ICF use could still contribute to issues related to benefits granting by social security, considered at the time of public policy making and compared with the effectiveness of services, and even for the elaboration of pedagogical plans for individuals or populations in different health conditions[3].

This study has some limitations. The study design does not allow causal relationships to be performed, although this was not the goal of the study. In addition, only about 6% of state workers responded to the virtual questionnaire. Note that it was not possible to determine what percentage of the 22,121 emails were actually received by professionals. However, the sample size of this study (1,313) cannot be disregarded, since according to previous studies, the number of online questionnaires drastically decreased over time, a fact that may be explained by the massive amount of daily incoming email[25]. In addition, many professionals do not update their data along the professional board and may not have received the questionnaire.

CONCLUSION

According to the observed results, the non-use of the ICF by the professionals is justified mainly by the lack of knowledge of the professionals about it. To alleviate this problem, the ICF should be included into undergraduate and graduate program content, as well as training courses for professionals. Note that this study, due to its pioneering nature, still presents many unanswered questions. In this sense, the researchers' intention was not to solve the issue of the ICF use among physical therapists and occupational therapists in Brazil, but rather to touch on a relevant issue that was being neglected by authorities, organizations and professionals in this country. Future studies should address each of the limitations presented here.

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