Daniela DIMITROVA-RADOJICHIKJ

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Review article

INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH: ADULTS WITH VISUAL IMPAIRMENT

Abstract:

The purpose of this paper is to present an overview of current studies on the general limitations of using the International Classification of Functioning, Disability and Health (ICF), as well as to review the results of its application in adults with visual impairment. The literature search was performed in ERIC, EBSCO-Host, Science-Direct, PROKUEST, SCOPUS, and Google Scholar. Articles were selected if they reported on any of the strengths and weaknesses of the ICF, also its application to adults with visual impairment. The literature review was performed using the PRISMA criteria. The search of relevant literature revealed 8 articles that met the eligibility criteria. The overall conclusion is that while the ICF is a valuable tool for describing how a person functions, it is not an evaluation instrument in itself.

Keywords: *icf, icf core sets, visual impairments, adults*

Introduction

Visual impairment is a term used to describe significant limitations in visual abilities, such as visual acuity, visual field, colour vision, and contrast sensitivity, caused by diseases or trauma (Steinmetz et al., 2021). The level of visual impairment can vary from minor vision loss to complete loss of light sensitivity (Gilbert and Ellwein, 2008). The International Classification of Diseases (11th revision, 2018) defines "mild visual impairment" as visual acuity worse than 6/12 to 6/18 in the better-corrected eye, "moderate visual impairment" as visual acuity worse than 6/18 to 6/60, "severe visual impairment" as visual acuity worse than 6/60 to 3/60, and "blindness" as visual acuity worse than 3/60 in the better-corrected eye (WHO, 2014). It is estimated that in 2020, approximately 596 million people worldwide had visual impairment, with 43.3 million of them being blind (Burton et al., 2021). Additionally, the number of individuals with visual impairment is projected to increase significantly as the global population ages.

Visual impairment has significant effects on an individual's daily functioning and quality of life (van Leeuwen et al., 2015). People who lose their vision are less able to work, take care of others, read, socialize, and participate in a variety of leisure activities (Brown et al., 2014). Indeed, visual impairment poses difficulties in performing essential activities such as shopping, managing finances, handling medications, and driving (Whitson et al., 2014). Additionally, even basic daily tasks like eating and dressing become challenging for individuals with visual impairment.

The International Classification of Functioning, Disability, and Health (ICF) was created in 1993 by a team of 1,800 specialists from sixty-five countries (Lee, Yu, & Hu, 2021). In 2001, the World Health Organization (WHO) officially adopted the ICF. The primary objective of the ICF classification system is to establish a standardized language and framework for describing health and health-related conditions (WHO, 2001). The ICF incorporates both the social and medical models of disability, resulting in a comprehensive bio-psycho-social model. This model recognizes that disability is not solely determined by a person's impairments or health conditions but is also influenced by environmental and personal factors. By including these various dimensions, the ICF promotes a holistic understanding of disability and functioning, considering the interactions between an individual's health condition, their activities and participation, and the environmental and personal factors that can either facilitate or hinder their functioning (WHO, 2001). Universality, parity, neutrality, and awareness of context are the guiding concepts of the ICF (Sulaiman et al., 2021).

The ICF consists of two parts. The first part includes body structure, body function, activities, and participation as the four main factors that determine functioning and disability. The second part addresses context, which includes personal and environmental factors. This classification can be used as: a statistical tool for data collection and recording; a research tool for measuring

outcomes and characterizing participants; a clinical tool for assessment, goal setting, and intervention; a social security tool for social security planning and policy making; and an educational tool for curriculum design and disability awareness (WHO, 2001).

Methodology

The purpose of this paper is to provide an overview of current studies on the general limitations of using the ICF and to review the results of its application in adults with visual impairment. The literature search was conducted in ERIC, EBSCO-Host, Science-Direct, PROKUEST, SCOPUS, and Google Scholar. Articles were selected if they reported on the strengths and weaknesses of the ICF and its application to adults with visual impairment. The literature review was conducted following the PRISMA criteria. The search of relevant literature identified 8 articles that met the eligibility criteria.

Results

In the professional literature, a significant number of limitations of the ICF have been mentioned. These limitations pertain to an insufficient theoretical basis, an unclear distinction between the components of activity and participation, a poor systematization of individual characteristics, and the potential for subjectivity when defining well-being and quality of life. In addition, the ICF has several other limitations. It is complex due to its large number of categories and codes, making it challenging to apply. Subjectivity and inter-ratter variability are present as it relies on the judgment of individual ratters, which can lead to inconsistencies in assessments. Furthermore, the ICF lacks condition specificity, meaning it may not adequately capture the unique challenges and limitations faced by individuals with specific conditions or disabilities. The coverage of environmental factors is limited, as the ICF does not provide a comprehensive understanding of the contextual factors that influence disability. Finally, there are practical challenges to implementation, including difficulties in integrating the ICF with existing assessment tools, which may hinder its effective use in various settings (see Table 1).

Table 1. Limitations in the application of ICF

Author (year)	Country	Challenges
Schuntermann (2005)	Germany	The ICF primarily focuses on describing the positive elements of the patient's functioning, but there is a deficit in terms of describing the weaknesses and limitations of the individual.Weaknesses in the ICF assessment measures were noted, as well as the lack of clear differentiation between the term's "activity" and "participation".

Okawa and Ueda (2008)	Japan	The ICF has implications for health legislation and regulations, but it does not have direct implications for implementation in rehabilitation centres.
Maini et al. (2008)	Italy	The implementation of the ICF is challenging due to its size and complexity. Key barriers to implementation include the use of assessment scales and the need for harmonizing assessments among experts from different health professions.
Rauch, Cieza and Stucki (2008)	Switzerland	The ICF has limitations, including the absence of uniform evaluation criteria, subjective aspects, and the time required for a comprehensive patient report.
Ptyushkin et al. (2011)	Slovenia	The ICF employs complex terminology, and there is a risk of subjectivity among assessors, as well as some users finding it cumbersome.
Jacob (2013)	Israel	The complexity of the ICF, the challenge of integrating it with existing computerized systems, and its inappropriateness for managing patients with acute medical conditions are key concerns.
Lundälv et al. (2015)	Sweden	The ICF is more widely recognized among scientific, medical, and social workers than among members of disability organizations.

In addition to the aforementioned limitations, effective use of the ICF necessitates training, resources, and time. This implies that professionals and practitioners should invest in acquiring the necessary knowledge and skills to properly apply the ICF in practice.

Use of the ICF in adults with visual impairment

The application of the ICF framework in adults with visual impairment has been researched and evaluated by numerous authors. Specifically, several studies have investigated the use of the ICF framework to understand and describe the functioning and disability of individuals with visual impairment. Learning and applying knowledge, general duties and demands, communication, mobility, self-care, home life, interpersonal interactions and relationships, major life areas, and community, social, and civic life are the nine categories of "Activities and Participation" according to the ICF framework (WHO, 2001). However, the "Activities and Participation" domains of the ICF, such as "cleaning living area" (d6402) and "washing and drying clothes and garments" (d6400), only provide generic descriptions of activities at a general level (Bruijning et al., 2010). Moreover, the ICF is not specifically based on the experiences of visually impaired individuals. For example, using public transportation is a general activity that requires specific cognitive and visual motor functions. It is crucial to understand the reasons behind someone's inability to 'use public motorized transport' (d4702), but the ICF's 'Activities and Participation' domains do not delve into specific issues such as 'Identifying the right bus', which is a common

challenge for people with impaired vision. Functional limitations prevent individuals from performing certain tasks, and disability is determined by the inability to accomplish things that are genuinely important to them.

The ICF does not address specific tasks that may be challenging for individuals with visual impairment. Therefore, a more comprehensive and specialized evaluation is needed to understand the unique challenges faced by individuals with visual impairment (Bruijning et al., 2010).

ICF core sets

In recent years, the WHO has been making efforts to reduce the complexity of the ICF and develop forms that are correlated with disease-specific core groups. This approach aims to reduce the number of functional categories and focus on those that are relevant to specific cases. The ICF consists of a substantial number of categories, with over 1400, posing a significant challenge for its application in clinical care and research. To address this issue and enable a more systematic and precise description of functioning in clinical practice, core sets of the ICF have been developed (Kesselring et al., 2008). These core sets are a concise selection of categories that are most relevant to the entire classification. Initially, core sets were developed for twelve chronic diseases (such as Diabetes Mellitus, Rheumatoid Arthritis, Depression, etc.), considering their prevalence and significant impact on function. Subsequently, additional Core Sets were developed for numerous other conditions (e.g., Cerebral Palsy, Hearing Loss, Autism Spectrum Disorder, etc.). Although core sets of the ICF have been developed for specific health conditions, they have not yet been specifically designed for visually impaired youth and adults.

Conclusion

The WHO is actively engaged in expanding the global implementation of the ICF, particularly in medical and rehabilitation settings. However, the ICF is not without its limitations. These limitations include the absence of standardized evaluation criteria and qualifiers, limited availability of evidence-based information to guide the selection of appropriate therapies for different ICF categories, and the time-consuming nature of preparing comprehensive patient reports. Research has demonstrated that clinical teams in various countries have faced significant challenges when attempting to implement the ICF in rehabilitation contexts. Additionally, many authors have emphasized the complexity of the ICF and its compatibility with existing rehabilitation systems in their respective countries as significant obstacles (Rauch, Cieza and Stucki, 2008).However, the ICF remains a valuable tool for describing an individual's functioning and is not intended to be used as an assessment instrument per se (Bruijning et al., 2010).

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