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A. Brief introduction about ICSO-R 2.0: Dimension, Category/subcategory, inclusion and exclusion

Briefly, ICSO-R 2.0 was developed to describe rehabilitation service organization. It consists of 2 dimensions: provider and service delivery

(<https://www.medicaljournals.se/jrm/content/html/10.2340/16501977-2627>).

Each dimension has categories and sub-categories. To make it clearer and more understandable, every dimension, category and subcategory, has definition. Furthermore, to make the dimensions, categories/subcategories more specific and distinguishable from one another, inclusion and exclusion are provided. This is similar with the presentation of ICF.

For this survey, we would like to ask the invited experts to determine if each dimension/category/subcategory is being relevant for the outcomes of rehabilitation studies; being distinctive among different (and typical) rehabilitation settings; and being feasible to use and ideally can be reported by objective figures (numerical scales, assessment tools) or other clear characterization.

Example:

One study describes the barriers and facilitators to utilization of rehabilitation services. This study aimed at determining barriers and facilitators to accessing rehabilitation services amongst persons with lower-limb amputations in rural community in South Africa. It found out that distance and accessibility were barriers to the utilization of rehabilitation services. Meanwhile, supported referral system and positive experiences with rehabilitation professionals were facilitators for utilizing rehabilitation services. In summary, these barriers and facilitators, which are described in the ICSO-R 2.0, can influence not only the process of accessing rehabilitation services, but also the outcome of utilizing rehabilitation services. In ICSO-R 2.0, rural area and distance are related to 2.5 (location of service delivery), accessibility is related to 2.6 (facility), referral is at the category of 2.4 (mode of referral), health profession is related to 2.11 (rehabilitation team).

From above example, in my subjective point of view:

- Location of service delivery (2.5); facility (2.6), mode of referral (2.4), and rehabilitation team (2.11) are **being relevant for study outcome**
- **Being distinctive:** Location of service delivery (2.5); facility (2.6). (Rationale: The location is distinctive, because it is in an rural area in South Africa; Facility is limited (although it is not specified in the paper). Mode of referral of this service, on the other hand, is similar to that of other rehabilitation services around the world. Therefore, I concluded that location of service delivery and facility are distinctive in this example.
- **Being feasible to use and ideally be reported by objective figures (numerical scales, assessment tools) or other clear characterization:** Location of service delivery (2.5), rehabilitation team (2.11)

However, for this survey, the invited experts should give their opinions for rehabilitation studies in general, not specific to one study.

B. Proposal/Research outline

Project Title: Expert survey and Delphi-process to select the most relevant dimensions based on ICSO-R 2.0

Background and rationale. The prevalence of disability worldwide keeps increasing. The need to strengthen rehabilitation services worldwide is prominent. It should be covered at all level of health system. The content and effectiveness of rehabilitation programs keep improving as many trials in the field of rehabilitation have been improved significantly in the last two decades. Rehabilitation programs are delivered within the context of rehabilitation service organization that can influence the results of the trials (1). However, the characteristics of the service organization (provider and delivery) have not been well documented in many trials. It could be due to low of awareness or the lack of an appropriate evaluation tool to describe and classify services

The first International Classification of Service Organization in Rehabilitation (ICSO-R; (2)) was proposed to describe service organization in rehabilitation. Based on some testing and expert inputs, the need to refine this version was obvious (1, 3). The new version (ICSO-R 2.0) has been developed and will be published soon.

For the use in the routine of clinical trials ICSO-R is too extensive to be applied for categorizing the rehabilitation services in the routine of clinical trials. Because of the relevance or a systematic reporting of characteristic of settings for rehabilitation interventions (and clinical trials) this project aims at developing a set of most relevant ICSO-R categories (we will keep the two dimensions) for the use in clinical studies in rehabilitation. The lack of a framework for depicting differences in service delivery has up to now contributed to the scarce knowledge regarding optimal rehabilitation service delivery, as well as to how the services confound the effect of the rehabilitation programs.

Identifying key aspects of the services that influence outcome of rehabilitation interventions are therefore of importance. This can facilitate the identification of relevant influencing factors of settings (and services) on rehabilitation outcomes, and support elucidation of variability in meta-analysis of rehabilitation outcome studies.

Rehabilitation interventions represent complex interventions and methodological approaches for effect evaluation can be discussed. Yet, when large sample sizes and comparative designs are not possible, the randomized trial still represents the gold standard for effect evaluation. We would argue that it is of major importance to identify service factors supported to have impact based on such designs. Based on a literature review confined to traumatic brain injuries, very few studies have directly focused on the service factors (4), and this strategy has to be supplemented. Expert surveys and Delphi processes are acknowledged strategies to build knowledge based platforms for decisions, and will supplement the literature review.

Aim

- To develop a minimum reporting set based on the ICSO-R 2.0 for the use in scientific studies in rehabilitation.
- To facilitate the identification of relevant factors of services on rehabilitation outcomes

- To support elucidation of variability in meta-analysis of rehabilitation outcome studies

Methodology

Expert survey and Delphi-process to select the most relevant dimensions based on ICSO-R 2.0

- The goal of this Delphi exercise is to identify the most important parameters categories of ICSO-R 2.0 to characterize rehabilitation services (and identify important lacking categories needed in a minimum reporting set. These parameters will be used as minimum dataset to report the setting in rehabilitation studies.
- The attached list of parameters is the comprehensive set of categories as provided by the International Classification of Service Organization in Rehabilitation in its second version (ICSO-R 2.0) (5). This classification is designed to describe rehabilitation services and may characterize the setting of the provision of rehabilitation interventions (incl. complex programs).
- The ICSO-R 2.0 has two dimensions (rehabilitation service provider and rehabilitation service delivery) with a total of 23 categories. Each category has a short description and is specified by inclusions and exclusions (Brief list of ICSO-R 2.0 see below)
- The two step Delphi-exercise should be performed by scientist with background in clinical rehabilitation as well as in rehabilitation research. The participants are selected with different professional background and from all world areas (Europe, Middle East, North America, Middle and South America, Central and Eastern Asia, South East and Southern Asia, Oceania) and they should also work in different rehabilitation settings (acute, post-acute, and long-term rehabilitation including Community Based Rehabilitation).

Reference

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Brief list of ICSO-R 2.0

1. Provider

- 1.1. Context
- 1.2. Ownership
- 1.3. Location of provider
- 1.4. Governance/leadership
 - 1.4.1. Mission
 - 1.4.2. Vision
 - 1.4.3. Involvement in governance and management
- 1.5. Quality assurance and management
- 1.6. Human resources
- 1.7. Technical resources
- 1.8. Funding of provider
 - 1.8.1. Source of money
 - 1.8.2. Criteria of spending
- 1.9. Other categories of provider

2. Service delivery

- 2.1. Health strategies
- 2.2. Service goal(s)
- 2.3. Target group(s)
 - 2.3.1. Health condition groups

- 2.3.2. Functioning groups
- 2.3.3. Other target groups
- 2.4. Modes of referral
- 2.5. Location of service delivery
 - 2.5.1. Location characteristics
 - 2.5.2. Catchment area
- 2.6. Facility
- 2.7. Setting
 - 2.7.1. Levels of care
 - 2.7.2. Mode of service delivery
 - 2.7.3. Phase of health care
- 2.8. Integration of care
- 2.9. Patient-centredness
- 2.10. Aspect of time and intensity
- 2.11. Rehabilitation team
 - 2.11.1. Professions, competencies
 - 2.11.2. Interaction approaches
- 2.12. Reporting and documentation
- 2.13. Funding of service delivery
 - 2.13.1. Source of money
 - 2.13.2. Criteria of payment
- 2.14. Other categories of service delivery