

International Encyclopedia of Rehabilitation

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Arthritis Assessment

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Abstract

Assessment in arthritis may follow the structure of the International Classification of Functioning, Disability and Health (ICF) which consists of the components *body functions* and *structures*, *activities* and *participation* and *environmental* and *personal factors*. Categories are the smallest unit of the ICF. An example is the category *d440 fine hand use* from chapter 4 *mobility* in the component *activities and participation*. Lists of the most typically impaired ICF categories, so-called ICF Core Sets, have been developed for some arthritides conditions. The ICF is not an instrument, but a framework describing problems in functioning of an individual with arthritis. Therefore, instruments are needed to measure these functioning problems. Several instruments in arthritis have been “translated” into ICF language in order to identify the ICF categories assessed by this particular instrument. Furthermore, by linking items of instruments to the ICF, it is possible to compare the content of instruments to each other.

Theoretical framework

Assessment in arthritis – similar to any other health condition - may follow the structure of the International Classification of Functioning, Disability and Health (ICF) (World Health Organization 2001) as a theoretical framework. By adopting the bio-psycho-social perspective of the ICF, functioning of an individual is determined within the ICF components *body functions* and *structures*, *activities* and *participation* and *environmental* and *personal factors*. In each of these components, the ICF classification includes a large number of categories. Categories are the smallest unit of the ICF. An example is the category *d440 fine hand use* from chapter 4 *mobility* in the component *activities and participation*.

Because of the large number of ICF categories, ICF Core Sets, which are lists of the most typically impaired ICF categories in a specific health condition, have been developed (Stucki and Cieza 2004). ICF Core Sets are available for some health conditions in arthritis, e.g. rheumatoid arthritis and osteoarthritis (Stucki et al. 2004, Dreinhofer et al. 2004), while others are currently being developed, e.g. psoriatic arthritis and systemic lupus erythematosus (Aringer et al. 2006, Stamm et al. 2007b). Using ICF Core Sets in clinical practice should ensure that the most typical problems of an individual with a specific health condition are considered and nothing important and relevant to this individual is forgotten.

Selecting instruments based on the ICF

The ICF also offers a qualifier scale for grading each individual problem (World Health Organization 2001). However, the ICF is not an instrument, but a framework describing

problems in functioning of an individual with a specific disease. While ICF categories represent outcomes, such as fine motor hand function, pain, etc., instruments are needed to measure the exact amount of limitation in each outcome. If, for example, a person with arthritis has problems with fine motor tasks with her hands, this may fit the ICF category *d440 fine hand use*. Consequently, an instrument has to be selected for assessing fine hand use. In several studies in arthritis, the links between available and commonly used instruments and the ICF categories have been established, which means that instruments have been “translated” into ICF language (Weigl et al. 2003, Stamm et al. 2004, Stamm et al. 2006, Sigl et al. 2005). Depending on the scale of measurement, these instruments should fulfill certain quality criteria, such as content and face validity, reliability, objectivity and sensitivity to change (Depoy and Gitlin 1998).

For assessing one and the same ICF category, different instruments can be used depending on the clinical situation, the aim of a research project or the professional focus. Different health professionals may focus on different ICF domains. While a medical doctor may predominantly assess body functions and structures, an occupational therapist may consider participation and environmental factors in the assessment of the same patient. In general, for the assessment of a patient with arthritis, a multidisciplinary perspective may be desirable in addition to the comprehensive ICF model because certain members of the rehabilitation team may add specific aspects (Stamm et al. 2005).

Instruments specific for an arthritis condition can be distinguished from generic ones which do not apply to a specific health condition. The following are examples of instruments in hand osteoarthritis: the Health Assessment Questionnaire (HAQ) (Fries et al. 1980, Bruhlmann et al. 1994), the AUSCAN (Bellamy et al. 2002b, Bellamy et al. 2002a), the Cochin scale (Duruoz et al. 1996, Falconer et al. 1991), the Functional Index of HOA (FIHOA) (Dreiser et al. 2000, Dreiser et al. 1995), the SACRAH questionnaire (Leeb et al. 2003, Sautner et al. 2004) and the AIMS2-SF questionnaire (Meenan et al. 1992, Rosemann et al. 2005). The Medical Short Form SF-36 questionnaire (Ware and Sherbourne 1992) is a generic instrument.

Instruments within the ICF component body functions and structures

Within the ICF components *body functions* and *structures*, disease activity and structural damage are most commonly assessed in arthritis.

Because of a variety of factors confounding the process of measuring the status of arthritis, including the unpredictable courses, the varied clinical presentation in different patients and the variability and potential bias of individual measures, it was suggested that disease activity should be monitored in the form of a composite evaluation of clinical variables that may be more valid than the evaluation of single variables (Stucki and Cieza 2004, Stucki et al. 2004, Dreinhofer et al. 2004). In rheumatoid arthritis, both the European League Against Rheumatism (EULAR) and the American College of Rheumatology (ACR) have defined core sets of disease activity measures (World Health Organization 2001, Stamm et al. 2007b) which were combined into composite scores, such as the Disease Activity Score (DAS) and the Clinical Disease Activity Score (CDAI) (Prevoo et al. 1995, Aletaha et al. 2005). These include joint counts of swollen and tender joints, patient self-report disease activity assessment and blood parameters such as Erythrocyte Sedimentation Rate or C - reactive protein. One self-report instrument has been developed to assess disease activity in rheumatoid arthritis, the Rheumatoid Arthritis Disease Activity Index (RADAI) (Stucki et al. 1995). In other arthritis conditions with skin involvement, such as Psoriatic Arthritis, disease

activity assessment may include the status of the skin disease, such as measuring skin involvement using the Psoriasis Area and Severity Index (PASI) (Mazzotti et al. 2003).

In Ankylosing Spondylitis, the *Bath Ankylosing Spondylitis Disease Activity Index* (BASDAI) is commonly used to assess disease activity (Garrett et al. 1994), while the *Bath Ankylosing Spondylitis Metrology Index* (BASMI) measures the flexibility of the spine (Jenkinson et al. 1994). In all forms of arthritis as well as osteoarthritis, structural joint damage may be assessed using different imaging techniques (Kloppenburg et al. 2007, Kloppenburg 2007).

Instruments within the ICF component activities and participation

A variety of self-report instruments (e.g. a hand function questionnaire to be filled in by the patient) as well as tests (e.g. a hand function test) is commonly used with the area of *activities* and *participation* in arthritis. Self-report instruments incorporate the patient perspective into the assessment, while tests may be considered to be more ‘objective’.

Several instruments have been “translated” into ICF language in order to know which ICF categories the items of the instruments would assess, but also with the aim to compare the content of the instruments to each other using the ICF as a common framework (Weigl et al. 2003, Stamm et al. 2006, Sigl et al. 2005, Drummond et al. 2008).

Instruments that are mainly based on activity and occupation (here defined in terms of occupational therapy as everything a human being does) were found to be predominantly etiologically neutral as they do not bridge to the health condition that causes the disability (Stamm et al. 2004). For example, the first item in the Canadian Occupational Performance Measure (COPM) (Law et al. 1990, Law et al. 1994) is *personal care*. The COPM does not question about the reason for the disability, nor about an underlying health condition.

Although *activities* and *participation* are one component of the ICF, in our recent analyses we also differentiated between items that assess activity and items that assess participation (Stamm et al. 2004, Stamm et al. 2006, Xie et al. 2006) activity being defined in the ICF as the execution of a task or action by an individual, whereas participation is the person’s involvement in a daily life situation (World Health Organization 2001).

Assessing environmental factors in arthritis

In several arthritides conditions, we found that most instruments most commonly used were predominantly lacking environmental factors, although these were important to patients with these diseases (Stamm et al. 2007b, Stamm et al. 2007a, Stamm et al. 2008). Some instruments in arthritis, such as the ‘*Effects of Assistive Devices and Altered Working Methods in Women with Rheumatoid Arthritis*’ (EDAQ) questionnaire (Nordenskiöld et al. 1998) include environmental factors. The EDAQ assesses potential change in activities or “habits” in relation to the use of assistive devices. Especially etiologically neutral instruments which do not bridge to the health condition that causes the disability may be considered to implicitly cover environmental factors as they inquire about an activity/ occupation/ participation, rather than narrowing to the cause of the disability. An example may be the item “self-care,” described above, that can be narrowed to “Are you limited in your self care tasks because of your joint pain?” Just “self-care” may implicitly include the environment, while when asking directly about the joint pain, the patient should think about limitations in self-care due to joint pain only.

Subjective well-being and quality of life

In relation to functioning, WHO defines quality of life as the individuals' perception of their position in the life context of the culture and the value systems they live in (WHOQOL - World Health Organisation Quality of Life Group 1998). Generic instruments, as well as disease specific instruments, can be used to measure quality of life in arthritis. An example for a generic instrument is the WHOQoL (WHOQOL - World Health Organisation Quality of Life Group 1998). An example for a disease-specific instrument is the quality of life instrument specific to psoriatic arthritis, the PsAQoL (McKenna et al. 2004).

Conclusion

While the ICF constitutes a comprehensive framework for assessing functioning in arthritis, instruments are needed to measure each problem area. Several instruments have been "translated" into ICF language in order to know which ICF categories the items of the instruments would assess, but also to compare the content of the instruments to each other using the ICF as a common framework. Furthermore, instruments specific for an arthritis condition can be distinguished from generic ones that do not apply to a specific health condition. Especially in instruments which link to the ICF component *activities* and *participation*, self-report instruments incorporate the patient perspective into the assessment, while tests may be considered to be more "objective". Etiologically neutral instruments do not bridge to the health condition that causes the disability.

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