

Is walking as important as muscle strength after stroke? Preference weighting of ICF's core elements

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Background: In the EU stroke is the 2nd or 3rd most common cause of death and one of the main causes of acquired disability. Through rehabilitation treatment, the disabilities can be sustainably reduced, and patients can regain more independence in their daily lives. Ensuring the timely rehabilitation includes decisions regarding what level of care and which services are essential for stroke survivors. However, decision by patients and physicians are not always congruent and the value of neurorehabilitation is unknown but necessary for decision-making. Indices, like the International Classification of Functioning Disability & Health (ICF) are often used to measure outcomes for decision making [1].

Objective: As other instruments the ICF assigns equal weight to each item. ICF doesn't distinguish importance and all changes are assumed to have equal relevance. It doesn't account for how people value improvements.

The objective is to examine the extent to which preference-weighted core elements of the ICF differ from unweighted assignments currently used in treatment decisions.

Methods: A best-worst scaling experiment Case II is used to value body function. ICF dimensions relevant in terms of function (12 attributes, 3 levels each, figure 1) are extracted from ICFs chapter on neuromusculoskeletal & movement-related functions. Stroke patients as well as members of the public are recruited. A fractional, efficient design is applied for the online survey (randomization, forced choice). Conditional and multinomial logit analyses are used as the main analysis method. Count analyses were applied as secondary method.

Results: Overall, N=1112 participants (51% male) from the German general population were recruited until August 2022. In BWS II, ensuring "Control of voluntary movement functions" (SQRT: 1.396) and "gait pattern functions" (SQRT: 1.265) are most important, with "muscle endurance" (SQRT: 0.668) and Muscle tone functions (SQRT: 0.729) being least relevant. The level "No problem" always has lowest sqrt and highest worst counts, while a "complete problem" is always rated more important regardless of the respective attribute/category and regardless of the analysis use (count analysis or Conditional logit) (Fig. 4). This means that respondents clearly expressed what should be the short-term focus in the rehabilitation. The more severe a problem, the more focus should be placed on this in the therapy.

Conclusions: If improvements of functions have effects on activities and these have effects in terms of health-related quality of life raises the question how the value of functions can be measured? The preliminary results show that unlike in the ICF body functions are not equally weighted by those affected. Results reveal differences between patient/public judgements and current clinical practice. This enhances the need for preference-based outcome evaluations.

Figure 1: Experimental & Survey Design & Example Choice Set

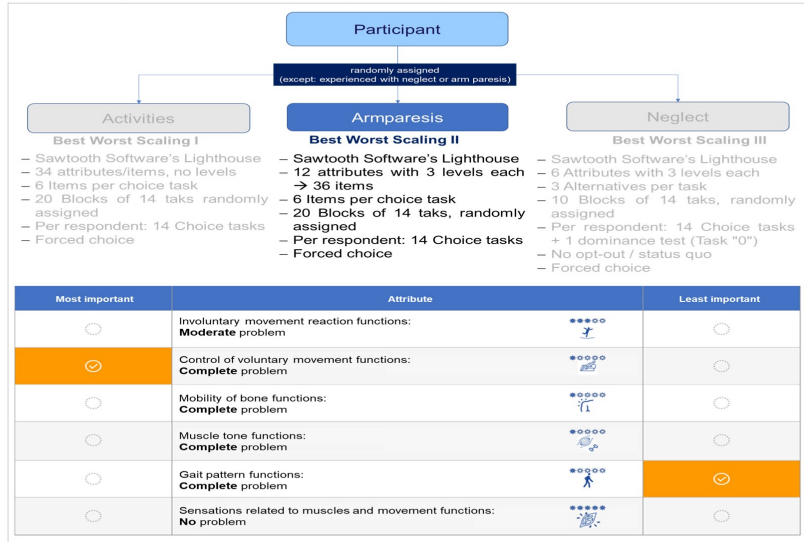


Figure 2: BWS II – Arm paresis, Count Analysis & SQRT (N=373)

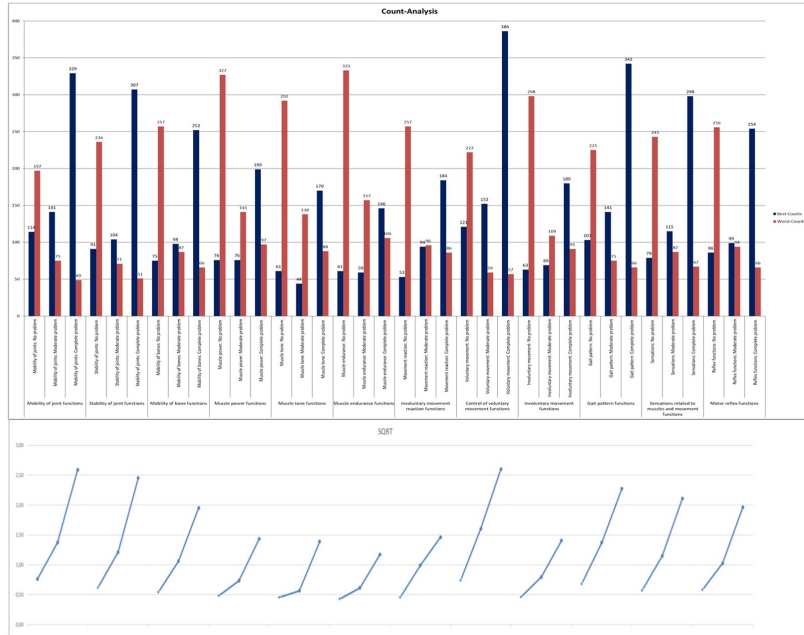


Figure 3: BWS II – Arm paresis, Conditional Logit (N=373)

