Is walking as important as communicating 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: Three best–worst scaling experiments are used to value body function and activities. ICF dimensions relevant in terms of function (BWS II, 36 items), perception (BWS III, 6 attributes, 3 levels), and activities (BWS I, 34 items) are extracted. Stroke patients as well as members of the public are recruited. Fractional, efficient designs are applied for all surveys (randomization, forced choice, figure 1). Conditional and multinominal logit analyses are used as main analysis method.

Results: N=1112 participants (51% male) from the German general population were recruited until August 2022. The study is currently collecting data of the patient population. In BWS I, attributes of self-care are valued highest, while community, social & civic life is of less relevance (figure 3). In BWS II, respondents clearly expressed what should be the short-term focus in the rehabilitation. Highest values were achieved for "complete problems" with voluntary movement functions (SQRT: 1.396) and gait patterns (SQRT: 1.265). Least important values resulted for "no problem" with muscle power and muscle tone (SQRT: 0.729, figure 2). In BWS III on neglect the orientation to other persons is most important (LD: 0.2760, figure 4). The value gained while transiting from worst to best level is highest.

Figure 1: Experimental & Survey Design

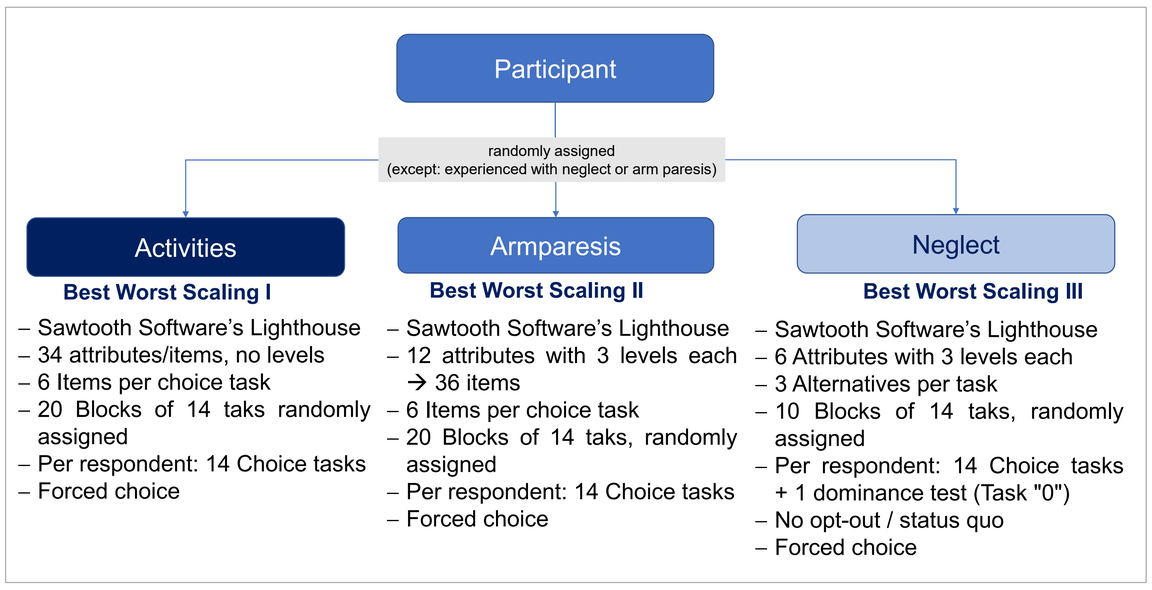


Figure 2: BWS II – Armparesis (N=373)

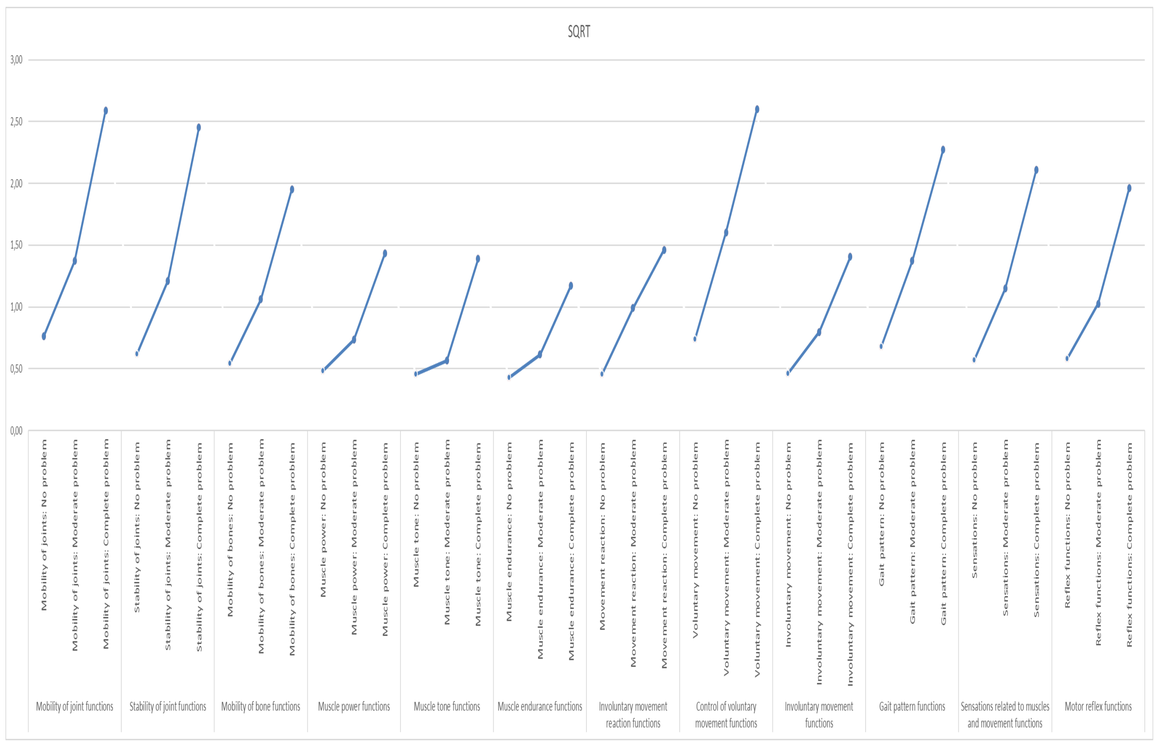


Figure 3: BWS I – Activities (N=370)

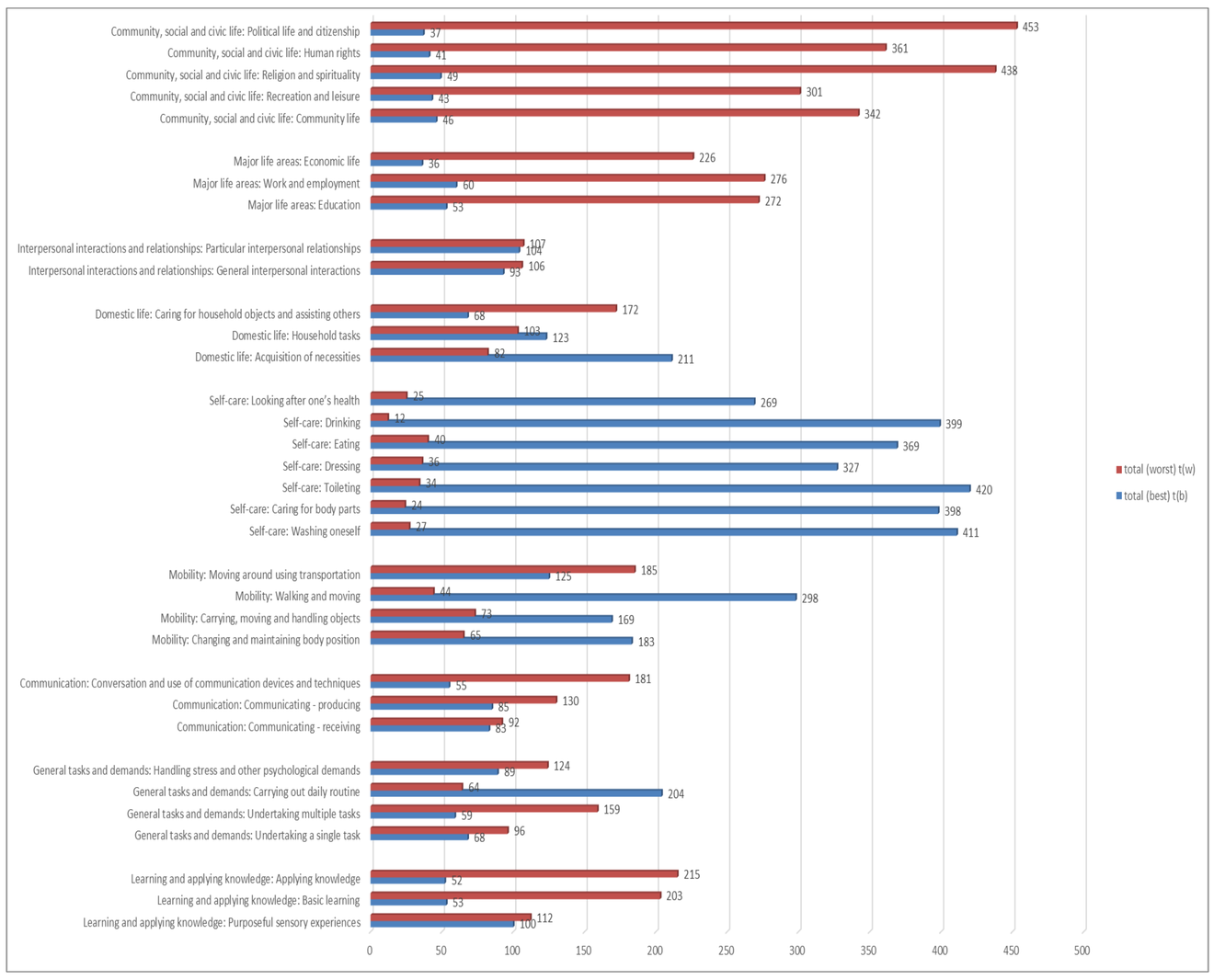
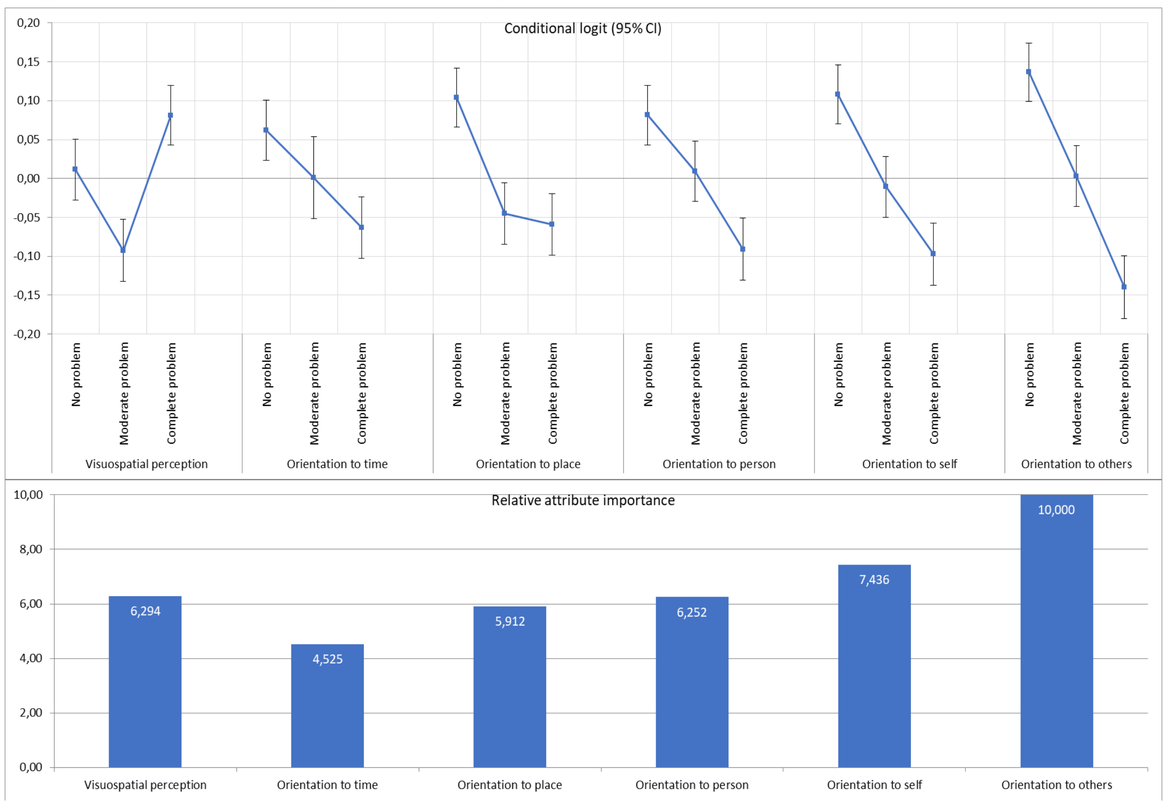


Figure 4: BWS III – Neglect (N=369)



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 results of the general population show that unlike in the ICF body functions and activities are not equally weighted by those affected. Results reveal differences between patient/public judgements and current clinical practice where all outcomes are equal. This enhances the need for preference-based outcome evaluations.

[1]: World Health Organization 2001. The International Classification of Functioning, Disability and Health (ICF). Geneva: WHO. http://www.who.int/classifications/icf/en/

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