Regaining Activities of Daily Living After Stroke – What Matters Most for Patients in Neurorehabilitation?

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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: One of the main goals in neurorehabilitation following stroke is regaining a largely independent life. Humanoid robots might be used as assistance to strengthen therapy effects. Assuming patients' activities have measurable influences in terms of patients' (health-related) quality of life it remains unclear whether this has an impact on assessable (patient) benefit. What value do stroke patients assign to certain activities of daily living?

Methods: Within the ongoing study, the International Classification of Functioning, Disability and Health (ICF) of the World Health Organization is used to define activities. To elicit patient's perspective regarding activity components an online questionnaire using Best Worst Scaling I is developed. An experimental design was generated using Ngene-Software and included all 9 categories of the ICF with 34 attributes. Three levels of the ICF assessment scale are each used to describe the impairments for the patients in the choice experiment. (figure 1) Conditional and multinominal logit analyses are used as main analysis method.5

Figure 1: Survey Design & Example Choice Set

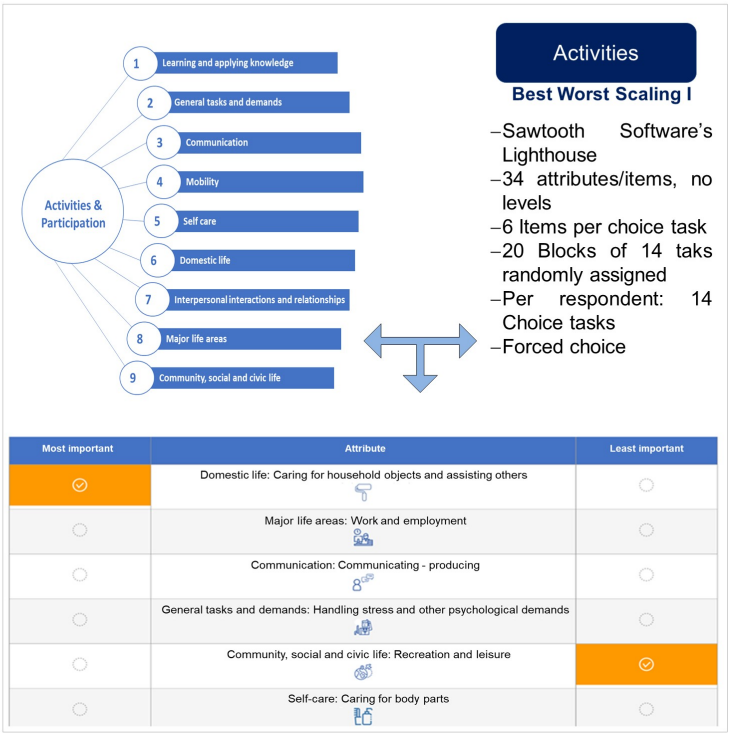
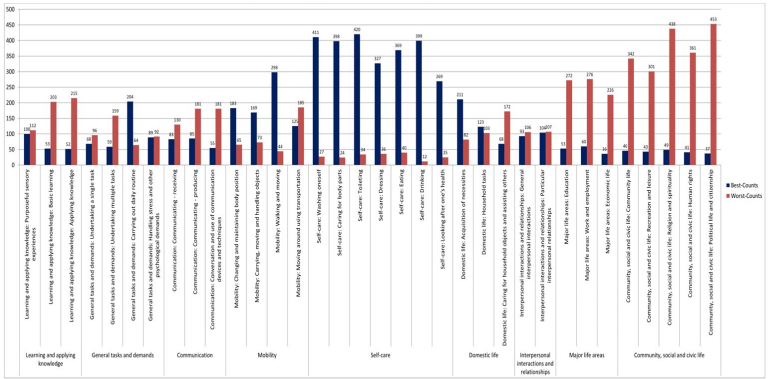


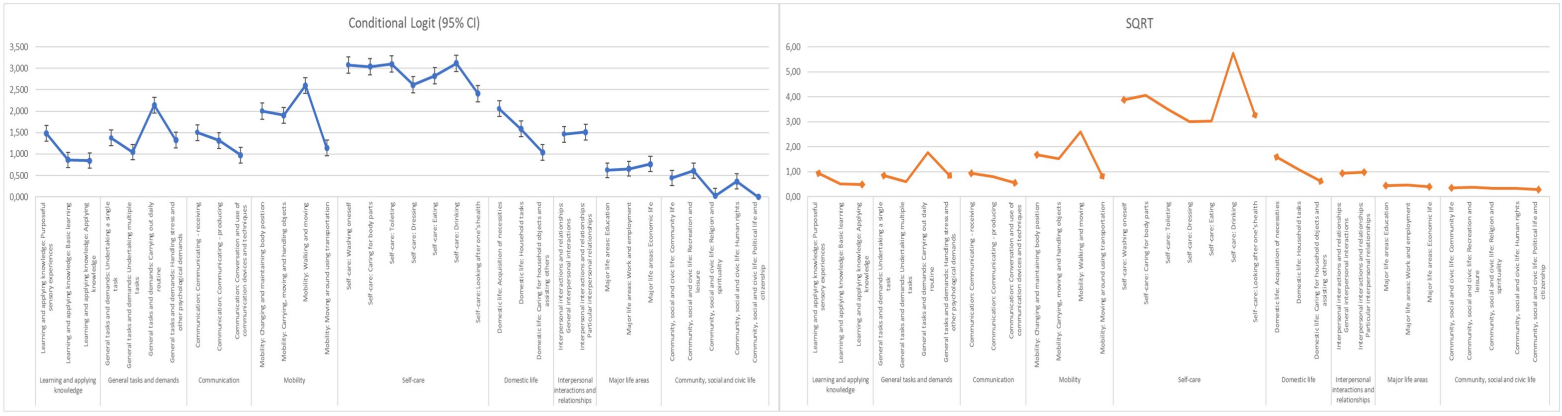
Figure 3: BWS I – Activities (N=370), Count Analysis



Results: N=370 completed the experiment. Components of self-care (SQRT: 3,800) are of highest relevance to the participants with the attributes "Drinking" (SQRT: 5,741)", "Caring for body parts" (SQRT: 4,063) and "Washing oneself" (SQRT: 3,894) being most important. Second most important is the category "Mobility" (SQRT: 1,889). Categories of less relevance were "Community, social and civic life" (SQRT: 0,357) and "Major life areas" (SQRT: 0,439) including "Education", "Work and employment" and "Economic life".

Conclusions: Within the ICF and the following clinical assessment every impairment of activities is equally important. In neurological assessment a patient is assigned with different codes for every single problem he/she has. However, it is shown that unlike the ICF, patients value various activities of daily living differently and clearly express different weightings of various activities following a stroke.

Figure 4: BWS I – Activities (N=370), Conditional Logit, SQRT



[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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