

**Outcome after Traumatic Brain Injury:
Health-Related Quality of Life and Self-Awareness
Results of the German QOLIBRI-Study**

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Abstract

Background: Health-related quality of life (HRQOL) is a relatively new outcome variable in the field of traumatic brain injury (TBI). For the German language use a TBI-disease-specific HRQOL instrument did not exist until now. In this context predictors of HRQOL like self-awareness and coping strategies are rarely investigated. The objective here is to present first data on the development of the German version of the QOLIBRI (Quality of Life after Brain Injury), a specific HRQOL measure after TBI and the role of self-awareness and coping strategies as predictors of HRQOL.

Method: 172 adult German individuals with TBI filled in the German QOLIBRI version assessing HRQOL with 37 items. Classical and modern psychometric testing was performed in order to obtain a psychometrically stable version. Additionally 141 adult German individuals after TBI filled in the Patient Competency Rating Scale for Neurorehabilitation (PCRS-NR), the Freiburg Questionnaire of Coping with Illness (FQCI), the Short Form-36 Health Survey (SF-36), the Hospital Anxiety and Depression Scale (HADS) and the Profile of Mood States (POMS). Injury severity according to GCS classification was 22.7 % severe TBI, 20.6 % moderate TBI, 31.2 % mild TBI and 17.7 % complicated mild TBI. On the Glasgow Outcome Scale Extended (GOSE) 55.3 % of participants showed good recovery, 35.5 % moderate disability and 9.2 % severe disability. Spearman correlations between self-awareness and HRQOL, clinical, and socio-demographic variables were calculated. An analysis of variance was conducted to compare groups with and without impaired self-

awareness with respect to generic and TBI-specific HRQOL. A PCA was used to identify main dimensions of coping strategies after TBI.

Results: The German QOLIBRI version assesses disease-specific HRQOL issues of individuals after TBI with good psychometric quality in the domains of Cognition, Self, Daily Life and Autonomy, Social Relationships, Emotions and Physical Problems. Significant associations were identified between self-awareness and HRQOL particularly in the cognitive domain as well as anxiety, depression, and severity of injury. Participants with and without self-awareness differed in TBI-specific and generic HRQOL. Two main strategies of maladaptive and adaptive coping were identified which were differentially associated with HRQOL and clinical variables.

Conclusion: A disease-specific HRQOL instrument of adequate psychometric quality for German TBI patients is now available. For valid patient-rated outcome evaluation after TBI the QOLIBRI represents a promising instrument. After TBI, lower self-awareness is associated with higher estimates of HRQOL, particularly in the cognitive domain. Disadvantageous coping strategies are still present in the long-term after TBI, that lower HRQOL. In the evaluation of TBI-outcome therefore self-awareness and coping strategies should be assessed and considered in interpretation of outcome and planning treatments.

Keywords: traumatic brain injury, outcome, health-related quality of life,
self-awareness, coping