Danish translation and adaption of Quick Aphasia Battery: a screening instrument for the acute phase

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Abstract

Background: 30-35% stroke patients are afflicted by aphasia. During hospitalization PwA are assessed by a speech language pathologist (SLP), who evaluates the speech function. SLP's uses assessment instruments as a big part of their diagnostic work. Current assessment instruments, used on inpatients (in the acute phase), are developed for outpatients. The use of these instruments can be problematic, since patients can rarely be a part of a whole assessment using these. Due to the patient being likely to suffer from quick fatigue, a clinically unstable condition, fast progression, and spontaneous remission. Therefore it is only parts of bigger assessment instruments, which along with observation are used in the acute phase to assess the speech function. This is an indication of a lack of Danish assessment instruments develop for the acute phase. The newly developed American assessment instrument, *Quick Aphasia Battery (QAB)*, is developed for the screening of aphasia in the acute phase. QAB examines PwA's speech function. The preliminary investigations of QAB's psychometric properties shows indications of good validity and reliability.

Purpose: The expectations was that a Danish QAB would also show good indications of use in Danish speech language pathology, for which reason it was sought to translate and adapt the assessment instrument to Danish. It was, in this thesis, therefore sought to answer, describe and discuss the following: *Is QAB a valid assessment instrument? Will the instrument retain its function after a translation and adaption into Danish? Does the translated QAB have good reliability and validity for the assessment of aphasia in the acute phase in Danish speech language pathology.*

Method: The methodology mixed research, was used for the study of the thesis statement. Guidelines for the translation and adaption was developed on the basis of a literature review. The guidelines were: preparations, forward translation, reconciliation between translations, backtranslation, review, and pilot study. An analysis of the content validity was conducted for the original QAB. In the translation and adaption into Danish there was conducted a series of cultural alterations. Three pilot

studies were conducted with the Danish QAB. Pilot study A had nine participants, who were healthy subjects. Pilot study B had eight participants, who were hospitalized with assumed aphasia. Pilot study C had one participant, who was an outpatient with aphasia. The sensitivity, specificity, alternate-forms reliability, interscorer reliability, and internal consistency reliability were calculated.

Limitations: During the process of the thesis a lockdown of the society occurred, due to the corona virus, COVID-19. This limited the data collection, for which reason the desired amount of participant wasn't achieved.

Results: Good qualitative content validity was uncovered for the original QAB. In pilot study A the average score for *QAB-overordnet* was 9.92 (max-score 10). The alternate-forms reliability was good, since r = 0.93 for *QAB-overordnet*. The best reliability was observed in the summary measures for *talemotorisk programmering, gentagelse,* and *grammatisk konstruktion*, as r =1. The lowest reliability was observed for *ordbenævnelse*, as r = 0.54. The specificity was calculated to be 100%. Pilot study A facilitated six changes in subtest 4 and one change in subtest 5 in the Danish QAB. In pilot study B the average score for *QAB-overordnet* form 1 was 6.68. Cronbach's Alpha suggested a good internal consistency, as r = 0.96. The sensitivity was calculated to be 88%. In pilot study C, examples of how a bigger dataset could contribute to a reliability and validity study, was calculated. The interscorer reliability was good, since r = 0.99. The alternate-forms reliability was good, since r = 0.92. The sensitivity was calculated to be 100%. It wasn't possible to conduct a concurrent validity study, because of the limited dataset. No changes was facilitated by pilot studies B and C.

Conclusion and clinical implications: It was determined that the original QAB had a good qualitative content validity. After the translation and adaption it was determined that the Danish QAB had retained the original function, assessment of PwA's speech function. This thesis showed indications for a good reliability, comprising of alternate-forms, interscorer, and internal consistency. The data saturation however, was limited for which reason a generalization from the results wasn't possible. The indications showed good qualitative validity of the Danish QAB. It wasn't possible to conduct a quantitative validity study. During the creation of this thesis, a great interest was shown in the Danish QAB, which could be an indication for the shortcomings in Danish speech language pathology.

There is a need for further investigation of the Danish QAB's psychometric properties, including norming and standardization.