



**Karolinska  
Institutet**

# Activity assessment of adults with myelomeningocele (MMC): Comparison of Occupational Therapy assessment instruments and neuropsychological testing (A pilot study)

Dorothee Riedel, Reg OT <sup>1,2,4</sup>; Göran Hagman, Clin psychologist <sup>1</sup>, Susanne Guidetti, Reg OT, PhD <sup>1,3</sup>;  
Katarina Allbrink-Oscarsson, Reg OT <sup>1</sup>, Ninni Westgren, PhD <sup>1</sup>  
<sup>1</sup> Karolinska University Hospital; <sup>2</sup> Spinalis Foundation; <sup>3</sup> Karolinska Institutet; <sup>4</sup> Rehab Station Stockholm

## Introduction

The majority of persons with myelomeningocele (MMC) have various degrees of cognitive impairments in addition to motor impairments. The cognitive impairments cause difficulties in managing everyday life and as a consequence contributes to medical complications. The cognitive impairments in the MMC population are not fully understood. Individuals do not request or do not receive sufficient information, support and assistance and professionals oftentimes lack necessary knowledge and training. Adequate intervention requires proper assessment that can be easily administered in the clinical setting.

## Aim

To identify clinical assessment methods that can be used in planning necessary interventions.

## Method

Comparison of the following assessment instruments:

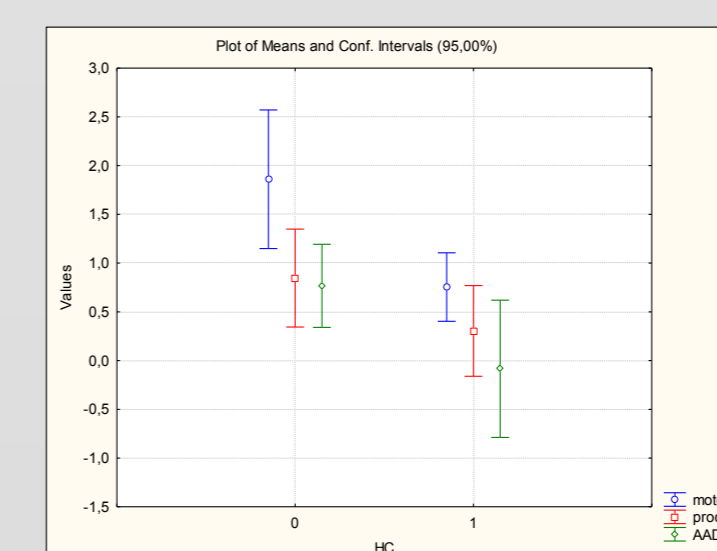
- Interview including ADL-taxonomy
- Cognitive Screening Battery (KSB)
- Assessment of Motor and Process Skills (AMPS)
- Assessment of Disability Awareness (AAD)
- Neuropsychological assessment

Test group: 10 young adults (18 -20 years) with MMC, referred to our clinic. The results are presented with descriptive statistics and correlations.

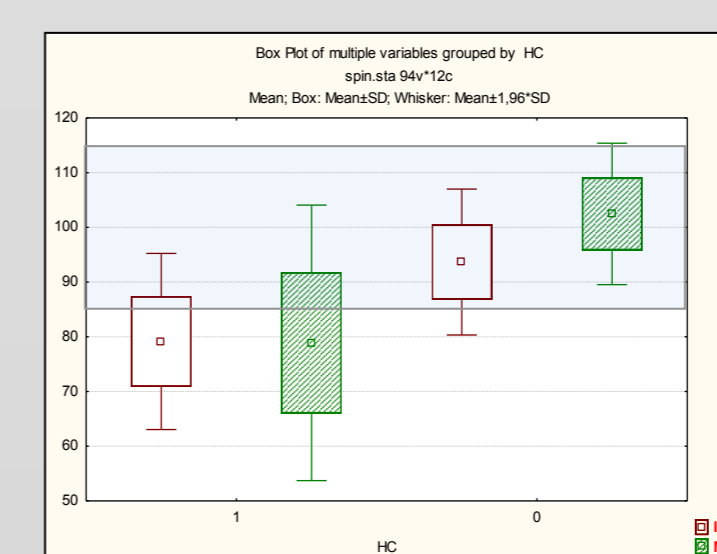


## Results

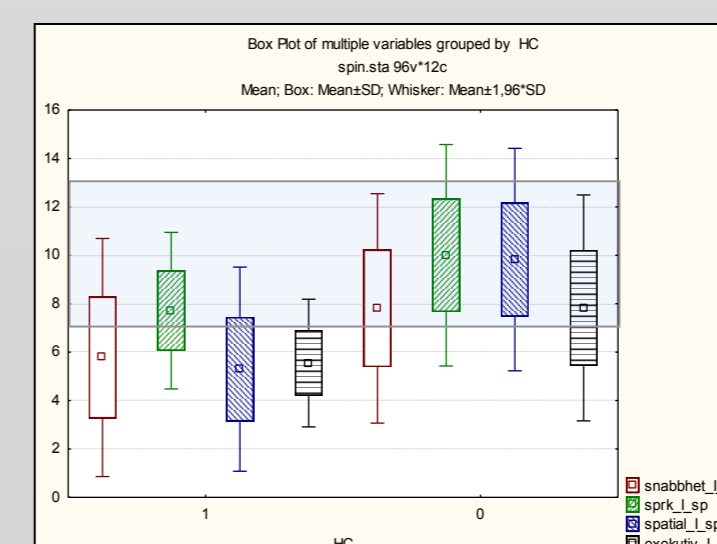
- High correlation between AMPS process and neuropsychological tests for memory and executive functions.
- AMPS shows and predicts how individuals manage everyday activities.
- Neuropsychological testing explains the causes for reduced performance of everyday activities.
- AAD complements AMPS in predicting a person's need of support through practical help and/or coaching.
- AAD serves as a good entry point for explaining cognitive functions to the individual.
- KSB seems not to be an adequate instrument to assess memory- and executive functions for this group.
- No single assessment seems to fully describe/predict functioning in all aspects of everyday life.



Resultats AMPS and AAD  
0: participants without hydrocephalus  
1: participants with hydrocephalus  
Norm AMPS motor between 2.00 och 3.88  
Norm AMPS process between 1.20 och 2.75



Results neuropsychological tests (IQ and memory)  
0: participants without hydrocephalus  
1: participants with hydrocephalus  
Norm: grey area



Results neuropsychological tests (attention, language, visuospatial, executive functions)  
0: participants without hydrocephalus  
1: participants with hydrocephalus  
Norm: grey area

## Conclusions

- KSB requires modification for this group of individuals.
- AMPS and AAD can assist in planning for leaving the parental home and predict need of support.
- Neuropsychology tests are necessary for assessing ability for academic studies, vocational training and work
- Complementary interviews give important additional information.
- Results from 10 respondents show important tendencies at best. Further research is needed.