Assessment of the Brief ICF Core Set Reliability for the Evaluation of Working Capacity in the Case of Multiple Sclerosis

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Introduction

Multiple Sclerosis (MS) impairs levels of work capacity and causes substantial impact on personal quality of life as well as on the welfare of his/her family.

The aim of this study was is to evaluate the informative capability of the International Classification of Functioning, Disability and Health (ICF) in regard to different clinical methods used to assess level of disability and/or work capacity of patients with MS.

Methods

181 persons with MS were assessed at Neurology centre Vilnius University hospital Santaros klinikos.

Expanded Disability Status Scale (EDSS **(1)**) was used to evaluate level of work capacity. Self-reports were also collected according to Brief ICF Core Set for Multiple Sclerosis, Hospital Anxiety and Depression Scale (HAD-A **(2)**, HAD-D **(3)**), Fatigue Descriptive Scale (FDS **(4)**), Short Form 36 Medical Outcomes Study questionnaire (physical health – (SF36-PH **(5)**), mental healt - SF36-MH **(6)**), while cognitive impairments were assessed using California Verbal Learning Test II ed. (CVLT-II **(7)**), Symbol Digit Modalities Test (SDMT **(8)**), Brief Visuospatial Memory Test –Revised (BVRT-R **(9)**).

Results

Brief ICF Core Set correlations with different scales

s110 Structure of brain

1	2	3	4	5	6	7	8	9
,200**	x	x	,154*	x	x	-,293**	-,288**	-,281**

s120 Spinal cord and related structures

1	2	3	4	5	6	7	8	9
x	x	x	x	x	x	x	x	x

b130 Energy and drive functions

1	2	3	4	5	6	7	8	9
,289**	,565**	,404**	,523**	-,537**	-,558**	-,223**	-,242**	-,242**

b152 Emotional functions

1	2	3	4	5	6	7	8	9
,237**	,528**	,451**	,409**	-,476**	-,636**	-,273**	-,356**	-,255**

b164 Higher-level cognitive functions

1	2	3	4	5	6	7	8	9
,183*	,285**	,241**	,196**	-,198**	-,331**	-,302**	-,295**	-,264**

b210 Seeing functions

1	2	3	4	5	6	7	8	9
,240**	,197**	x	,262**	-,166**	-,180**	-,155**	-,184**	-,183**

b280 Sensation of pain

1	2	3	4	5	6	7	8	9
,231**	,251**	,193**	,316**	-,497**	-,276**	x	-,149**	x

b620 Urination functions

1	2	3	4	5	6	7	8	9
,556**	,267**	,173*	,445**	-,449**	-,310**	-,205**	-,229**	-,233**

b730 Muscle power functions

1	2	3	4	5	6	7	8	9
,659**	,189**	x	,428**	-,582**	-,345**	-,246**	-,274**	-,279**

b770 Gait pattern functions

1	2	3	4	5	6	7	8	9
,676**	,266**	,176*	,460**	-,614**	-,387**	-,229**	-,319**	-,215**

d175 Solving problems

1	2	3	4	5	6	7	8	9
,268**	,452**	,359**	,432**	-,459**	-,509**	-,277**	-,340**	-,236**

d230 Carrying out daily routine

1	2	3	4	5	6	7	8	9
,255**	,306**	,163**	,366**	-,409**	-,351**	x	x	x

d450 Walking

1	2	3	4	5	6	7	8	9
,696**	,253**	x	,434**	-,540**	-,333**	-,252**	-,275**	-,349**

d455 Moving around

1	2	3	4	5	6	7	8	9
,556**	,386**	,215**	,417**	-,592**	-,421**	-,266**	-,286**	-,307**

d760 Family relationships

1	2	3	4	5	6	7	8	9
,177**	,383**	,228**	,299**	-,227**	-,324**	-,246**	-,194**	x

d850 Remunerative employment

1	2	3	4	5	6	7	8	9
,354**	,320**	,272**	,297**	-,419**	-,405**	-,360**	-,456**	-,358**

e310 Immediate family

1	2	3	4	5	6	7	8	9
x	x	x	x	-,172**	x	x	x	x

e355 Health professionals

1	2	3	4	5	6	7	8	9
x	x	x	x	x	x	x	x	x

e410 Individual attitudes of immediate family members

1	2	3	4	5	6	7	8	9
,325**	x	x	,266**	-,279**	-,203**	x	-,239**	-,277**

e580 Health services, systems and policies

1	2	3	4	5	6	7	8	9
,228**	,148**	x	,148**	-,239**	x	x	x	-,183**

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

X – no significant correlation.

Different colours mean highest results in concrete ICF item.

Conclusions

Results of the study results highlight the reliability of the Brief ICF Core Set in defining working capacity level of the patients with MS. Therefore we recommend using ICF Core Set in the institutions of Lithuania to assess patients with MS.

References

1. Coenen M, Basedow-Rajwicz B, König N, Kesselring J, Cieza A. Functioning and disability in multiple sclerosis from the patient perspective. *Chronic Illn*. 2011;7(4):291–310.
2. Kurtzke JF. Rating neurologic impairment in multiple sclerosis: an expanded disability status scale (EDSS). *Neurology*. 1983;33(11):1444–52.
3. Bjelland I, Dahl AA, Haug TT, Neckelmann D. The validity of the Hospital Anxiety and Depression Scale. An updated literature review. *J Psychosom Res* 'n. 2002;52(2):69–77.
4. Iriarte J, Katsamakos G, De Castro P. The fatigue descriptive scale (FDS): A useful tool to evaluate fatigue in multiple sclerosis. *Mult Scler*. 1999;5(1):10–6.
5. Ritvo P, Fischer J, Miller D, Andrews H. Multiple sclerosis quality of life inventory: a user's manual. New York Natl Mult ... [Internet]. 1997; Available from: https://scholar.google.ca/scholar?hl=en&as_sdt=0,5&cluster=12824216666664612525#0
6. Ware JE, Snow KK, Kosinski M, Gandek B, Sherbourne. Medical Outcomes Study Questionnaire Short Form 36 Health Survey (SF-36). *Med Care*. 1994;32(306).
7. Goretti B, Nicolai C, Hakiki B, Sturchio A, Falautano M, Minacapelli E, et al. The brief international cognitive assessment for multiple sclerosis (BICAMS): normative values with gender, age and education corrections in the Italian population. *BMC Neurol* [Internet]. 2014;14(1):171. Available from: <http://bmoneurol.biomedcentral.com/articles/10.1186/s12983-014-0171-6>
8. Giedraitienė N, Kizlaitienė R, Kaubrys G. The BICAMS Battery for Assessment of Lithuanian-Speaking Multiple Sclerosis Patients: Relationship with Age, Education, Disease Disability, and Duration. *Med Sci Monit* [Internet]. 2015 Dec 10;21:3853–9. Available from: <http://www.medscimonit.com/abstract/index/idArt/896571>

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