

Ocena skladnosti med ocenjevalci za slovenski prevod krajše različice testa za oceno sistemov ravnotežja (mini-BESTest) pri pacientih po možganski kapi

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Uvod: Ravnotežje je ključno za delovanje gibalnega sistema in izvajanje večine dejavnosti vsakdanjega življenja (1). Če opredelimo vzrok motnje ravnotežja pri posameznem pacientu, lahko izboljšamo učinkovitost vadbe ravnotežja. Ena izmed pomembnejših ocenjevalnih lestvic za sistemsko klinično ocenjevanje ravnotežja je test za oceno sistemov ravnotežja (angl. Balance Evaluation Systems Test – BESTest) (2). Ocenjuje 36 nalog, ki so razdeljene v šest kategorij, kar nam pomaga pri določanju vzrokov motnje ravnotežja. Glavna omejitev te ocenjevalne lestvice je poraba časa, ocenjevanje traja od 30 do 45 min. Zaradi tega so razvili krajšo različico, tako imenovani mini-BESTest (3). Vključuje le 14 nalog (ocene od 0 do 2) in se lahko izvede v približno 15 minutah. Je zanesljiv, veljaven in ponovljiv (3). Namen: Oceniti skladnost med ocenjevalci pri uporabi mini-BESTest v slovenskem prevodu pri pacientih po možganski kapi. **Metode:** Pet ocenjevalcev je hkrati ocenjevalo istega pacienta, skupaj so ocenili 10 pacientov z motnjami ravnotežja po možganski kapi. Ocenjevalci so bili diplomirani fizioterapevti z 10- do 20-letnimi delovnimi izkušnjami na področju rehabilitacije pacientov po možganski kapi. Nobeden izmed njih še ni izvajal testa. Navodila so dobili uro pred začetkom ocenjevanja. Pri vsakem preiskovancu so ocenili vseh 14 nalog. Skladnost med ocenjevalci smo ocenili z intraklasnim korelacijskim koeficientom (dvosmerni naključni model za posamezno meritev – ICC (2, 1), oblika za absolutno skladnost (4); in prikazali s črtnim diagramom (5, 6). Razlike med ocenjevalci glede povprečne ocene smo preizkusili z enosmerno analizo variance za ponovljene meritve. **Rezultati:** Povprečna ocena posameznega ocenjevalca se je gibala med 18,6 (standardni odklon: 14,2) in 19,7 (standardni odklon: 14,5). ICC je znašal 0,96. Med ocenjevalci ni bilo statistično značilne razlike v povprečni oceni (analiza variance za ponovljene meritve: $p = 0,190$). **Zaključki:** Slovenski prevod mini-BESTest je razumljiv, po izsledkih naše študije je skladnost med ocenjevalci odlična. Na oddelku za rehabilitacijo bolnikov po možganski kapi URI – Soča smo ga začeli uporabljati poleg drugih kliničnih testov za ocenjevanje ravnotežja, da bi izboljšali učinkovitost terapevtskih ukrepov.

Ključne besede: slovenski prevod, Mini BESTest, ravnotežje, možganska kap.

Assessment of conformity among raters using Slovenian translation of the short version of Balance evaluation systems test (mini-BESTest) in patients after stroke

Background: Balance is essential for functioning of the motor system and performance of most daily activities (1). With identifying the cause of balance deficit in individual patients, the efficiency of balance training can be improved. One of the most important evaluation scales for systemic clinical balance assessment is Balance evaluation systems test (BESTest) (2). The test evaluates 36 different tasks divided into six different categories and is aimed at identifying the causes of balance disorder. The main shortcoming of the test is its length – the evaluation takes from 30 to 45 minutes. For that reason, a shorter version has been developed, the so called mini-BESTest (3). The later includes only 14 tasks and can be done in about 15 minutes. Aim: To assess conformity among raters when using the Slovenian translation of mini-BESTest. **Methods:** Five raters simultaneously assessed the same patient; a total of 10 patients with balance disorder after stroke were assessed. The raters were certified physical therapists with 10 to 20 years of work experience in the field of rehabilitation of patients after stroke. None of the raters had used the test before. The instructions were given one hour before the assessment. In each subject, 14 tasks were evaluated on a scale from 0 to 3. The conformity among the raters was assessed with intraclass correlation coefficient - Two-way random single measure ICC (2, 1) – Consistency/Absolute Agreement (4); and then illustrated on a line diagram (5, 6). The difference among the raters in relation to the average score was tested with one-way analysis of variance for repeated measures. **Results:** The ICC was 0.962. The difference among the raters in relation to the average score was not statistically significant (repeated measures ANOVA: $p=0.190$). The average score of individual raters ranged from 18.6 (st. deviation 14.2) to 19.7 (st. deviation 14.5). **Conclusions:** Different authors found mini-BESTest reliable, valid and repeatable (3). The Slovenian translation of mini-BESTest is comprehensible, and the present study has shown excellent conformity among the raters. It is used beside other clinical tests for balance assessment at University Rehabilitation Institute, Republic of Slovenia department for rehabilitation of patients after stroke with the purpose of improving the efficiency of therapeutic interventions.

Keywords: Slovenian translation, mini-BESTest, balance, stroke.

Literatura/References

1. Sackley CM, Baguley BI, Gent S, Hodgson P (1992). The use of a balance performance monitor in the treatment of weight-bearing and weight transference problems after stroke. *Physiotherapy* 78: 907–13.
2. Horak FB, Wrisley DM, Frank J (2009). The balance evaluation systems test (BESTest) to differentiate balance deficits. *PhysTher* 89: 484–98.
3. Franchignoni F, Horak FB, Godi M, Nardone A, Giordano A (2010). Using psychometric techniques to improve the balance evaluation system's test: the mini-BESTest. *J Rehab Med* 42 (4): 323–31.
4. McGraw KO, Wong SP (1996). Forming inferences about some intraclass correlation coefficients. *Psychological Methods* 1 (1): 30–46 (popravek *Psychological Methods* 1 (4): 390).
5. Vidmar G, Rode N (2007). Visualising concordance. *Comput Stat* 22 (4): 499–509.
6. Vidmar G, Novak P (2009). Reliability of in-shoe plantar pressure measurements in rheumatoid arthritis patients. *Int J Rehabil Res* 32 (1): 36–40.