Échelles d’évaluation en MPR (2) / Annals of Physical and Rehabilitation Medicine 56S (2013) e133–e139
e139

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Keywords: Sorensen test; Validity; Reliability; Low back pain

Objective.— To examine the validity and reproducibility of the Sorensen test in chronic low back pain (CLBP).

Patients and methods.— It is a case-control study about 60 patients: 30 patients with CLBP and 30 healthy subjects. The clinical examination included a collection of anthropometric data, an assessment of the flexibility pelvi rachidienne and physical performance tests (evaluation of the muscular endurance of spine’s extensors [Sorensen test] and flexors [Shirado test] and a test of 6-minute walk).

Construct validity was investigated with use of the Spearman rank correlation coefficient (convergent and divergent validity). Reliability was assessed by use of the intra-class correlation coefficient (ICC) and the Bland and Altman method.

Results.— The two groups were comparable regarding the parameters that influence the strength of the trunk muscles.

The correlations of the Sorensen test’s global score with the abdominal muscles’ endurance (Shirado test, r = 0.43), the age (r = 0.46), the Borg Scale (r = 0.36), the duration of back pain (r = 0.31) and the Beck Questionnaire (P = 0.003) give this test a satisfactory convergent validity.

The divergent validity was demonstrated by an absent significant correlation of Sorensen test’s global score with CLBP functional impairment (r = 0.30), the Oswestry score (r = -0.04), the VAS pain (r = -0.17), the VAS effort (r = 0.04), the marital status (P = 0.08) and the educational level (P = 0.08).

Reliability was found to be excellent (ICC = 0.86) and this was confirmed by Bland and Altman method.

Discussion.— The assessment of muscle strength is an important component of the physical dimension in the CLBP. This muscular strength can be measured by methods whose complex and expensive metrological properties are not always demonstrated.

Our study showed a validity of structure and satisfactory reliability of the Sorensen test to assess endurance of trunk extensor muscles. This test which is easy to perform and inexpensive is needed as a reference tool to assess the muscular performance of low back pain patient. Further studies will be necessary to check the sensitivity to change.

http://dx.doi.org/10.1016/j.rehab.2013.07.287

P075-e

French version of the SIGAM mobility scale: Cross-cultural validation of its psychometric properties

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Keywords: Lower-limb amputees; Questionnaire; Validation; Mobility

Purpose.— Many scales to evaluate lower-limb amputees exist. Most of them only focus on deficiency, and those analyzing functional abilities are too complex to be used in clinical routine [1,2]. The purpose of this study is to translate the SIGAM mobility scale in French, and to test and validate its psychometric properties. The SIGAM is a self-report questionnaire with 21 closed-ended questions, quickly done, evaluating many functional abilities, and easy to read thanks a validated algorithm [3]. This scale has been promoted by the British Society of Rehabilitation Medicine because of its psychometrics properties.

Methods.— First part: translation in French language, and back translation approved by the original author.

Second part: validation. Sixty lower-limb amputees at the stable phase, able to perform a 2-minute walk test (2MWT), will be included to evaluate:
- criterion validity, in comparison with the Houghton Scale;
- construct validity, based on the correlation with several convergent or divergent dimensions assessed by VAS, and with 2MWT;
- internal consistency (Cronbach α coefficient);
- test-retest reproducibility (ICC).

Results.— We are currently starting the second part, planned to last 5 months in view of the rehabilitation department consultation number. We will thus have quite advanced preliminary results in October.

Conclusions.— Given its psychometrics properties, the functional dimensions analyzed, the short completion time, and the easy analysis by validated algorithm, the cross-cultural adaptation of the SIGAM, could allow a best assessment of lower-limb amputees, and this tool may be used in international clinical trials.

References

http://dx.doi.org/10.1016/j.rehab.2013.07.288

P076-e

Evolution of quality of life in patients with posttraumatic dysfunctional disorders of wrist-hand complex after rehabilitation program

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Introduction.— This paper has sought to illustrate efficacy and the impact of specific individualized rehabilitation programs on health, functioning and quality of life of patients with posttraumatic dysfunctional disorders of the hand and wrist.

Material and method.— We used a prospective study conducted on a total of 25 patients with dysfunctional disorders of the wrist-hand complex of various causes (especially in a professional context), with or without neurological impairment, with or without surgery, beneficiaries of individualized rehabilitation programs with specific functional recovery targets, for a period of 10 days. The study was conducted at the National Institute of Rehabilitation, Physical Medicine and Balneoclimatology, from February to June 2012. Some of them (9 patients) were followed in dynamic therapy over 2 sessions. For the data collection was used QuickDASH questionnaire, a specific self-assessment tool, of upper extremity functionality, respectively of the factors influencing quality of life – symptoms like pain, stiffness, sleep quality and ability to participate in various activities – individually (activities of daily living), social and professional. This questionnaire has proven to be useful for assessment of the therapeutic efficacy of functional rehabilitation programs of wrist trauma. There were evaluated from the perspective of individual patients, traumatic consequences on the health and functioning, respectively critical functional somatic situation before rehabilitation and functional changes after session/sessions of rehabilitation through dynamic analysis of QuickDASH scores, the degree to which specific rehabilitation programs have an impact on quality of life of these patients.

Results and discussions.— The results obtained from analysis and statistical processing of data have proven efficacy of specific rehabilitation programs of posttraumatic hand, observing a improvement of average score after two sessions of rehabilitation and also significant direct correlation with the original and final scores, justifying the need and importance of conducting a second session of rehabilitation to all patients.

http://dx.doi.org/10.1016/j.rehab.2013.07.289