Validation of Duke Health Profile in slowly progressive neuromuscular disorders
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Keywords: Quality of life; Neuromuscular disease; Questionnaire; Validity.
Introduction.— Interventions in Physical Medicine are global care. Quality of life is a subjective point of view of the patient. Its measure is complex, but useful to personalize the intervention and to evaluate the effect of our care. Among the generic scales, the SF-36 showed good psychometric properties with neuromuscular patients. However, Bank et al. described a not suitable structure of composites scores, and Boyer et al. a ceiling effect in physical dimensions. Finally, anxiety and depression are not studied in this scale. The aim of our study was to determine the psychometrics properties of the Duke Health Profile (DHP), chosen for its acceptability and its specifics dimensions of anxiety and depression, in patients with slowly progressive neuromuscular disease.
Results.— One hundred and thirty-nine patients were included. The acceptability of DHP is excellent with a fill rate close to 100%. Disability dimension showed an important ceiling effect. Reliability was good with a correct internal consistency (Cronbach = 0.54–0.73), except for the social health dimension (0.40) and good reproducibility (ICC = 0.55–0.83). Anxiety and depression dimensions have discriminant properties to separate patients with a Barthel index less or greater than 40.
Discussion.— DHP is suitable and valid for patients with neuromuscular disease, with some reserve for the social health and disability dimensions. Dimensions of anxiety and depression have a particular interest. A comparison with the HADS scale should be interesting.
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Balance and gait parameters in sensory ataxia; effects of a balance training program
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Keywords: Balance; Gait; Ataxia; Neuropathy; Training.
Aims.— When rehabilitation is proposed for a long time to improve balance in patients with mixed motor and sensory neuropathy, no study was performed to characterize balance and gait in sensory neuropathy and their changes following a specific training program.
Patients and method.— A rehabilitation program including foot sensory stimulation, balance and gait training with limited vision was followed by 30 patients with ataxic neuropathy in order to stimulate multi-sensory compensation in a no-controlled and no-blinded study. Ataxic neuropathy was graded by a pallesthetic score. The evaluation of patients and healthy subjects was performed with clinical tests (Berg Balance Scale, Functional Reach Test and Timed up and Go test) and instrumental tests for balance (force platform) and gait (Locometre).
Results.— All patients exhibited impairments in balance and gait parameters compared to control group values. A high pallesthetic score correlated with increased sway area when standing with the eyes open on a firm surface. At the end of the training program, significant changes were observed in balance control assessed using the three clinical tests (Wilcoxon test, P < 0.001). A tendency towards a reduction of the Romberg sign was noticed and limited changes were observed after training in instrumental tests for balance and for gait parameters. Age induced some limitations in balance and gait parameters but had no effect on training results.
Discussion.— These results show that ataxic patients are impaired in balance and gait but can improve clinical balance parameters following training with a multisensory approach. We observed only limited correlations between the pallesthetic score and some balance parameters, suggesting that various levels of compensation occur in these patients. It confirms that balance and gait training have to be recommended in the non-pharmacologic approach of ataxic neuropathy with a positive short-term effect on dynamic balance parameters without limitation due to age or degree of sensory impairment. The effectiveness of this training program has to be evaluated in the future in a controlled study to ascertain the contribution of the placebo effect in these data.
Further reading
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Gait and balance parameters in patients with fascioscapulohumeral muscular dystrophy: A short term evaluation of a rehabilitation program