single stroke at least 12 months previously, with recovery of Indoor walking and home return. Fatigue was assessed by a multidimensional scale, the MFI-20 which allowed determining the fatigue level in its four dimensions (general fatigue, mental fatigue, reduced activity and lack of motivation). We examined possible associations between the level of fatigue in each of its dimensions and different parameters related to the patient (age, sex, body mass index), to the brain injury (etiology, side, duration), and to other stroke complications (motor deficit, disability level, anxiety, depression, sleep disturbance and pain). Disability was determined by the Barthel Index score. Anxiety and depression were assessed by the HAD scale.

Results.—The different domains of fatigue identified by the MFI-20 were present at equivalent levels in the patients without predominance of one domain over the others. “General fatigue” and “mental fatigue” were strongly correlated with anxiety and depression. “Lack of motivation” was correlated with sleep disturbance (P = 0.047) and with depression (P = 0.047). “Reduced activity” was correlated with anxiety (P = 0.02). On the other hand, there were no significant correlations of the different domains of fatigue with the other parameters studied. Conclusion.—Post-stroke fatigue is multidimensional. Some comorbidities (depression, anxiety, sleep disorders) that are accessible to treatment are associated with a higher risk of fatigue in each of its dimensions.

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P042–EN

Evaluation of walking speed (10 m walking test) in patients with chronic hemiparesis after at least 3 consecutive botulinum neurotoxin injections while patients follow a guided self-rehabilitation contract
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Keywords: Hemiparesis; Botulinum neurotoxin; Guided self-rehabilitation contract

Objective.—Evaluation of walking speed (10-m walking test) in patients with chronic hemiparesis after at least 3 consecutive botulinum neurotoxin injections while patients follow a guided self-rehabilitation contract.

Design.—Open label trial.

Setting.—Outpatient rehabilitation center.

Patients.—Fourteen patients with chronic hemiparesis (mean 52 months post-stroke) consecutively treated with at least 3 BTX injections, while following a guided self-rehabilitation contract.

Intervention.—Guided Self-Rehabilitation Contract involving prolonged daily stretching postures and exercises of rapid alternating movements of maximal amplitude, in combination with 3 consecutive injections of botulinum neurotoxin (onabotulinumtoxin A, abobotulinumtoxin A, incobotulinumtoxin A or rimabotulinumtoxin B) in selected lower limb muscles (plantar flexors, rectus femoris) during a 9-month period.

Main outcome measures.—Comfortable and maximal barefoot 10 m walking speed was assessed 6 times during a 9-month period (mean pre-post injection delay 40 days; mean post-pre-assessment delay 71 days). A multivariable analysis was performed to test the effects of Visit and status pre/post-injection as predictors of walking speed variations.

Results.—Overall, comfortable barefoot walking speed increased by 49 ± 14% (mean ± SEM, P < 0.001) in the 9-month period, while maximal barefoot walking speed increased by 65 ± 13% (mean ± SEM, P < 0.001). While the first injection improved comfortable walking speed by 9.9% (P = 0.019) and maximal walking speed by 16.5% (P < 0.001), this injection-induced effect waned in subsequent injections. Overall, the factor Visit (passage of time) was a predictor of walking speed variations (P < 0.001) while the status pre/post-injection was a predictor only for the maximal speed. At baseline, maximal walking speed was a predictor of subsequent walking speed variations (comfortable, P = 0.024; maximal, P = 0.006), unlike comfortable walking speed.

Conclusion.—Against common knowledge [1], stroke patients may meaningfully improve walking speed in chronic stages once BTX injections are associated with an appropriate neurorehabilitation program, such as a guided self-rehabilitation contract.

Reference


P043–EN

Perception of action by stroke patients in virtual realities using minimal kinematic displays
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Keywords: Stroke; Perception of action; Kinematic cues; Virtual reality

Objective.—The aim of the present research is dual-fold: first, to provide a better understanding of perception of action by stroke patients; second, to gain more insight about which kinematic cues are relevant for action recognition in virtual displays.

Method.—To do so, naive stroke patients and an aged matched healthy control group had to assess the level of attainment of pointing movements displayed on a computer screen. Two different kinematic displays were used: a stick diagram and a dot end-point representation. The displayed movements were from patients with very severe, severe, moderate and mild hemiparesis, or healthy subjects.

Results.—It was shown that stroke patients were able to distinguish between healthy and several attained movement trajectories by observation of minimal kinematic displays, although with a larger variability than controls. Subsequently, patients succeeded better in doing so when observing an end-point dot representation. It was assumed that the observation of the end-point trajectory directed their attention to the strongest affordances: smoothness, indicated by the number of velocity peaks, and form of the trajectory, indicated by the curvature index.

Discussion.—These findings should be taken into account when implementing avatars in virtual reality (e.g., constructing serious games) for upper-extremity stroke rehabilitation, in order to make sure that the moving avatars provide neither too little, nor too much information to the attained observer.


P044–EN

TLS-Coping. A new validated short and specific coping scale in multiple sclerosis
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Keywords: Multiple sclerosis; Scale; TLS-Coping10

Patients.—Suffering from multiple sclerosis (MS) resort to a coping strategy deeply modifying their general perceived Quality of life (QoL). Coping and QoL assessments are essential to implement appropriate behavioral cognitive therapy programmes. However, the currently validated Coping with Health Injuries and Problems (CHIP) scale has poor reliability in MS Context.

Objective.—To validate a short and specific coping scale Two-Lives Scale: TLS Coping 10:
– easy to use and easy to score in routine medical practice;
– to bring out the link between the respective coping and QoL scores.

Patients and methods.—We conducted a multicenter cross-sectional study of 521 consecutive MS patients. We used the CHIP, MOS-SF36 scales and TLS coping scale.
Results.– We identified a single coping dimension with domains: positive-engaged coping (PEC) and negative-disengaged coping (NDC). Strategies by an iterative algorithm: we selected 6 PEC and 4 NDC relevant items respectively.

Conclusion.– We have validated a short and specific coping scale (TLS-cooping10) in MS context. We found a strong link between the coping and QoL scores. The new scale is based on a single dimension with 2 opposite poles. We validated 10 relevant items: 6 PEC and 4 NDC.

Our scale was designed to obtain 4 semantic choice answers which could be marked by the neurologist using a binary score for each item – the main advantage for the neurologist being to get a score out of 10 in less than 2 minutes – for the patient enabling to fill in the questionnaire in less than 10 minutes. Therefore, this short and specific scale suits the routine medical practice’s requirements extremely well.


P045–EN
Validation of a short and specific quality of life scale in multiple sclerosis: Two Life Scale (TLS-QoL10)
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Keywords: Scale; MS; TLS-QoL10

Multiple sclerosis (MS) severely affects Quality of Life (QoL). The patients’ key concern isn’t usually measured in daily practice. The MOS-SF36 and its derivations are undoubtedly the most widely used scale in clinical trial. However, these scales are not used in routine practice because they are too complex, time-consuming, and hard to score. Our objective was to validate a short and specific QoL scale (TLS-QoL10) which is easy to use and easy to score in routine medical practice.

We conducted two multicenter French cross-sectional surveys: the first one involved 20 centers, 36 neurologists and 331 MS patients, the second one 40 centers, 58 neurologists and 521 patients.

The first survey had already shown that we could obtain statistical relevance with only 3 dimensions retained and had identified a maximum of 10 items. The second study showed the external validity henceforth confirming three main dimensions and 10 relevant items: Physical, Mental, and Energy-Vitality (PMEV).

For the initial study, 51 items were gathered into one questionnaire TLS51 and were compared with the SF36 and CHIP scales. Evidence has shown that they could be boiled down to 29 (TLS29). The second study concerning the external validation of Overall perceived QoL (OPQ) enabled us to confirm the 3 main domains and to validate the 10 relevant items.

(a) Our second cross-sectional multicenter survey has confirmed that SF36 remains a relevant QoL scale in MS, incredibly complex to use in routine. (b) It allowed us to identify a short and specific 10-item QoL scale with only 3 dimensions which are as statistically relevant as the SF36’s 8 ones: P, M and E-V. (c) These dimensions are sufficient to assess the OPQ. (d) We validated 10 relevant items as follows: 4 items for P, 4 items for M and 2 items for EV.

Our questionnaire is designed to obtain 4 semantic choice answers which could be marked by the neurologist using a binary score for each item, (a) the advantage for the neurologist being to get a score over 10 in less than 2 minutes and (b) for the patient enabling him to fill in the questionnaire in less than 10 minutes, (c) therefore, this short and specific scale suits the routine medical practice’s requirements extremely well.


P046–EN
Arabic translation and validation of the SPADI index
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Keywords: Shoulder; Functional index; SPADI; Translation

Objective.– To translate and validate an Arabic version of “Shoulder Pain and Disability Index” (SPADI) to use in a Tunisian population with periarthritis pathologies of the shoulder.

Patients and methods.– We used the Method of “forward/backward translation”. Have been included in this study patients with periarthritis pathologies of the shoulder. Clinical measurements included the assessment of pain and functional disability by the functional visual analogue scale (VAS). Adaptations were carried out after a preliminary test including 15 patients. The interrater concordance was evaluated by intraclass correlation coefficient (ICC) and Bland and Altman method; the validity of construct was assessed using the Spearman correlation coefficient and the factorial analysis followed by orthogonal rotation. The internal consistency of each factor was graded by the study of Cronbach alpha coefficient.

Results.– This study has included eighty people. The interrater agreement was excellent (ICC = 0.96) confirmed by Bland and Altman Method. The validity of convergence studied on the analysis of Cronbach alpha coefficient assessed on all item was 0.911.

Conclusion.– The Arabic version of the SPADI index possesses high methodological qualities. Further studies with other Arabic-speaking populations will assess its applicability.