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Title: The 'Sleep-Disordered Breathing in Patients with Neuromuscular Disease' questionnaire (SiNQ-5) – Clinical usefulness in a tertiary referral centre

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Body: Introduction: Patients with neuromuscular disease (NMD) are at risk of developing sleep-disordered breathing (SDB) with hypercapnic respiratory failure. We hypothesised that the SiNQ-5 score may be useful to assess patient who are ventilated for NMD with SDB. Methods: We screened patients attending a tertiary referral centre for investigation of SDB, administering the SiNQ-5 (range 0-10 points, lower scores indicating fewer symptoms). The questionnaire contains five questions related to breathlessness, sleep and posture (Steier et al, Eur Respir J, 2011). 236 (105 female) patients had complete data sets. Treatment was defined as either continuous positive airway pressure (CPAP) or non-invasive ventilation (NIV). Results were compared using the Mann-Whitney U independent t-test. Results: 141 patients had obstructive sleep apnoea and obesity hypoventilation syndrome (score 4.1(2.7)), 51 had NMD (3.5(2.8)), 16 had chronic obstructive pulmonary disease (COPD, 4.3(2.6)) and 6 had chronic heart failure (CHF, 5.7(2.8)), 52 patients had no evidence of SDB (4.4(2.7)). 28 patients had NMD with SDB; 26 of those were treated for SDB with a total score of 2.9 (2.5) points, 2 were untreated, scoring 4.0 (0.0) points. Patients with NMD without SDB did not differ from those with SDB who were controlled on treatment (p=0.3) or from Snorers without SDB (p=0.53). Conclusion: NMD patients with controlled SDB are likely to score similarly to those without SDB and lower than other groups. In order to further address its clinical usefulness it is necessary to follow up and correlate clinical outcomes to the SiNQ-5 scores changes associated with treatment.