676 - Construct Validity of the Saint George's Respiratory Questionnaire in An Observational Cohort of Patients with Early Diffuse Systemic Sclerosis

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Hall F2 - Poster Hall (McCormick Place West)

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Background/Purposes: The Saint George's Respiratory Questionnaire (SGRQ) is a self-administered questionnaire for measuring health-related quality of life () in respiratory diseases. It consists of 76 items, producing three sub-scores: Symptoms (SYM), Activity (ACT), and Impacts (IMPACT), and Total (TOTAL). SYM scale assesses the patients' perception of their respiratory problems; the ACT scale measures he patients' current daily physical activity; the IMPACT scale evaluates the impact of the respiratory problems and the TOTAL scale is a weighted summation of the 3 scales. Scores for each scale can range from 0 (no impairment) to 100 (the worst impairment).

Methods: We recruited patients with early diffuse SSc (< 5 years from 1st non-Raynaud's sign or symptom) at four scleroderma centers in the United States. We hypothesized there would be at least moderate correlations (r>=0.30) between the 4 SGRQ scales vs. FVC% predicted, HAQ-DI, VAS breathing, and 6-minute walk test (6MWT). We also assessed the discriminatory validity to distinguish between i) FVC ≤ 70% vs. > 70% and ii) presence vs. absence of fibrosis as assessed by high-resolution CT .

Results: Of 200 patients, we had data on 177 patients with SGRQ. The mean (SD) age was 51 (12) years, disease duration (from 1st non-Raynaud's sign or symptom) 2.4 (1.6) years, modified Rodnan skin score (MRSS) 21 (10), HAQ-DI 1.1 (0.8), and VAS breathing of 20 (35 on a 0-150mm). The mean (SD) scores for SYM, ACT, IMPACT, and TOTAL scales were 25 (19), 41 (31), 15 (17), and 25 (19), respectively. The table summarizes correlations between SGRQ scores and other outcomes. ACT, IMPACT, and TOTAL scales had significant associations with FVC%, HAQ-DI, VAS breathing, and 6MWT except for SYM scale vs. HAQ-DI and 6 MWT (P> 0.05). Patients with low FVC% (≤ 70%; N=42) had higher (worse) scores for SYM, ACT, IMPACT, and TOTAL scales compared to FVC% >70% (N=135; P< 0.05 for all scales). Patients with evidence of fibrosis on HRCT (N=32) had numerically higher scores for SYM, ACT, IMPACT, and TOTAL scales, although only TOTAL score was statistically significant (p< 0.05).

Conclusion: The SGRQ has acceptable construct validity in early dcSSc. Ongoing longitudinal analysis will define the sensitivity to change and minimally clinically important differences of the SGRQ scales as well as the additive value of SGRQ to other outcome measures for dcSSc.

Table: Correlation coefficients between SGRQ scales and other measures

SGRQ	FVC% Predicted (N=165)	HAQ-DI (N=177)	VAS Breathing (N=175)	6 MWT (N=54)
SYM	-0.25*	0.12	0.52*	0.16
ACT	-0.36*	0.44*	0.62*	-0.52*
IMAPCT	-0.36*	0.33*	0.79*	-0.45*
TOTAL	-0.38*	0.38*	0.75*	-0.48*

* P value< 0.05

Keywords: quality of life and scleroderma

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