10.06 Remote Forced Vital Capacity (FVC) Monitoring in Patients with Connective Tissue Disease related Interstitial Lung Disease (CTD-ILD)

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Background: Interstitial lung disease (ILD) is an essential comorbidity to address in patients with connective tissue diseases (CTD). We aim to determine if home spirometry monitoring can detect early progressive fibrosing ILD in CTD-ILD resulting in timely treatment leading to improving mortality and morbidity. Method: Patients with CTD-ILD, idiopathic pulmonary fibrosis (IPF) and familial pulmonary fibrosis (FPF) were recruited and followed prospectively for 12 months. Participants were given a handheld spirometer and oximeter linked to a real-time electronic health journal via a smartphone app. The highest readings of the day are used for analysis.Results:113 patients were recruited; 62 CTD-ILD, 31 IPF and 21 FPF with median age of 66, 71 and 69 years respectively. 47.8% were males. Preliminary data on 93 patients demonstrated median forced vital capacity (FVC) predicted were 79.55% in the CTD-ILD, 77.70% in IPF and 78.88% in FPF cohorts. The median oxygen saturation (SpO2) was 96% the CTD-ILD and FPF, and 95% in the IPF cohort.
Table 1(10.6): Distribution of FVC and SpO2 readings between males and females in patients with interstitial lung disease

	CTD-ILD		IPF		FPF	
	Male	Female	Male	Female	Male	Female
No. of Patients	23	28	17	8	7	10
Median Age (years)	71	63	73	65	62	69
No. of FVC Readings	1103	1640	1203	725	259	569
Median FVC (L)	3.00	2.05	2.76	2.32	3.00	1.61
Median FVC Predicted (%)	74.66	84.17	72.67	91.08	72.52	79.29
No. of SpO2 Readings	1124	1612	1135	831	255	617
Median SpO2 (%)	96	96	95	96	96	96

Conclusion:Patients with CTD-ILD were younger and have a higher percentage predicted FVC. There were distinct differences in the FVC between men and women with ILD in all categories. Monitoring FVC remotely is feasible and acceptable to patients with CTD-ILD despite impaired hand function.

Conflict of Interest: None to declare