

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 7216

**Publication Number:** P602

**Abstract Group:** 1.2. Rehabilitation and Chronic Care

**Keyword 1:** COPD - exacerbations **Keyword 2:** Physical activity **Keyword 3:** Longitudinal study

**Title:** A longitudinal study evaluating the relationship between exacerbations and directly measured physical activity in outpatient COPD patients

Mohsin 1108 Ehsan drmohsinehsan@hotmail.com MD <sup>1</sup>, Rana 1109 Khan RKhan@resident.uchc.edu MD <sup>1</sup>, Kriti 1115 Lonial KLonial@resident.uchc.edu MD <sup>1</sup>, Prerna 1116 Mota PMota@resident.uchc.edu MD <sup>1</sup>, Asher 1117 Qureshi aqureshi@stfranciscare.org MD <sup>1</sup>, Richard 1118 ZuWallack rzuwalla@stfranciscare.org MD <sup>1</sup> and Dr. Nancy 1119 Kline Leidy nancy.leidy@unitedbiosource.com <sup>2</sup>. <sup>1</sup> Department of Pulmonary and Critical Care, Saint Francis Hospital and Medical Center, Hartford, CT, United States, 06105 and <sup>2</sup> Outcomes Research, United BioSource Corporation, Bethesda, MD, United States, 20815 .

**Body:** This longitudinal study was designed to evaluate changes in physical activity during COPD exacerbations. IRB approval was obtained and all patients provided consent before participation. Those with a clinical and spirometric diagnosis of COPD, a history of 2 or more exacerbations in the past year, and no exacerbations in the past 4 weeks were recruited. Physical activity was measured using an actigraph device worn continuously (24 hrs/day) on the wrist. The number of minutes per 24-hour day at moderate, vigorous, and very vigorous activity levels were recorded as outcomes. Exacerbations were defined by changes in the 14-item, Exacerbations of Chronic Pulmonary Disease Tool (EXACT), which was filled out daily. Patients remained in the study for 6 months or until 4 weeks after the onset of an exacerbation. The study, which commenced in December, 2011, is designed to be event-driven until 20 exacerbations are recorded. To date, 12 patients have been enrolled: 7 males; mean age 61 years, mean FEV1 53%. Seven had EXACT-defined COPD exacerbations (mean change = 15 units) over 1200+ total patient-days of observation. Exacerbation durations ranged from 1 to 11 days. Mean daily physical activity on exacerbation days tended to be lower than on non-exacerbation days: moderate activity, 70 ± 25 (SE) vs. 99 ± 12 minutes (p = 0.19); vigorous activity, 55 ± 12 vs. 74 ± 10 minutes (p = 0.01); and very vigorous activity, 6 ± 4 vs. 11 ± 3 minutes (p = 0.07). In summary, this longitudinal study suggests that physical activity decreases during COPD exacerbations.