European Respiratory Society
Annual Congress 2012

Abstract Number: 666

Publication Number: P2293

Abstract Group: 5.2. Monitoring Airway Disease

Keyword 1: Asthma - management **Keyword 2:** Exercise **Keyword 3:** Spirometry

Title: Impact of short term supervised breathing exercises added to regular medications over nocturnal symptoms, requirement of rescue medication and spirometric variables in asthma patients

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Body: Background: Breathing exercises have been described to be useful in asthma management by a few workers. Objective: To assess efficacy of breathing exercises [Pranayamas] in asthma patients on optimal medications using spirometric indices, nocturnal symptoms parameters and requirement of rescue medication. Methods: 60 stable asthma patients [34 females], on optimal regular medications as per GINA guidelines for ≥ 3 months, were enrolled. All subjects continued their respective medications during study period and, in addition, performed seven breathing exercises (BEx) for a period of 3 months initially under full and thereafter intermittent supervision at Yoga centre in our Institute. Spirometry, nocturnal symptoms and requirement of rescue medicine (salbutamol, given via an MDI) were assessed before and after study period. Results: The mean age of asthma patients was 25.45 ± 5.41 years. After study period, mean FEV_1 increased from 2.492 ± 0.358 L to 2.745 ± 0.343 L and mean PEFR increased from 283.82 ± 51.12 L/min to 336.23 ± 51.47 L/min; all increases were statistically significant. The mean days with nocturnal symptoms/week decreased significantly from 1.417 ± 1.619 to 0.067 ± 0.362. The requirement of rescue medication decreased significantly from 6.23 ± 2.95 to 0.90 ± 1.25 puffs/week. Conclusions: Breathing exercises, when added to regular medications, observed to be beneficial in stable asthma patients leading to significant improvements in spirometric parameters and significant reduction in nocturnal symptoms as well as requirement of rescue medicine.