

## ***E-BABE- The effects of respiratory muscle training on improvement of the internal and external thoraco-pulmonary respiratory mechanism in COPD patients***

Rola Tout

Saint Joseph University, Lebanon

### ***Abstract***

Introduction: Chronic obstructive pulmonary disease (CPOD) is a severe, incapacitating pathology. Inspiratory and/or expiratory muscle training may favorably impact the indicators of both specific and general improvement with regard to this disease. We are hypothesizing that when combined with bronchial decluttering, this training will have a beneficial effect on lung function and quality of life in these patients. Method: Fourty COPD subjects classified Gold I and Gold II and aged  $60.38 \pm 8.02$  years were divided into four groups of 10. Three of the groups were trained with the help of Threshold<sup>®</sup> tools used for (1) inspiratory, (2) expiratory and (3) inspiratory and expiratory purposes; their training supplemented the decluttering and lower limb muscle exercise that the 4th group concurrently received. The patients underwent 16 rehabilitation sessions over an 8-week period. The variables consisted in: (1) forced expiratory volume in 1s (FEV1) and spirometrically measured peak expiratory and inspiratory flow rates (PEFR and PIFR); (2) fatigability, dyspnea, heart rate and walking distance evaluated during the 6-minute walk test; (3) maximum inspiratory pressure and (4) maximum expiratory pressure as assessed by the Threshold<sup>®</sup> tools and (5) the signs of quality of life in terms of the Saint-George's respiratory questionnaire (SGRQ) score. Results: Only in group 1, there was significant improvement with regard to FEV1 and PEFR. There was no PIFR modification in any of the groups. On the other hand, signs of quality of life scores along with dyspnea, fatigability and heart rate showed significant improvement in the three experimental groups, and significant improvement in maximum inspiratory pressure was observed in groups 1 and 3. Discussion: When associated with decluttering techniques, diaphragmatic rehabilitation and lower limb muscle exercise along with psychological support and educational efforts, respiratory muscle training is beneficial when compared with the usual protocols in rehabilitation of COPD patients.

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### ***Biography:***

Rola Tout has completed his Master in Physical therapy at Saint Joseph University of Beirut, she got her University Diploma in cardio Vascular and respiratory Rehabilitation From Rene Descarte University (Paris V). She is a PhD candidate in Science at Saint Joseph University of Beirut (Lebanon).