

## 2<sup>nd</sup> WORLD PHYSICAL MEDICINE AND REHABILITATION CONFERENCE

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### Effectiveness of exercises with weight loaded equipment's in pulmonary rehabilitation - A new approach towards better rehabilitation

Ramesh Babu Manivannan<sup>1</sup>, Anil T John<sup>2</sup>, Saravanan Govindasamy<sup>3</sup>, Kohila Letchumanan<sup>4</sup>, Anees Sabiya<sup>5</sup>

<sup>1</sup>Lincoln University College, Malaysia

**Introduction:** Studies published on exercises in pulmonary rehabilitation are focusing mainly on aerobic exercises. Exercises using Weight Loaded Equipment's (WLE) are not discussed much on studies.

**Objectives:** This study is focusing on exercises with WLE along with conventional pulmonary rehabilitation.

**Methodology:** 40 patients prescribed for pulmonary rehabilitation were selected. Control group is applied with Conventional Pulmonary Rehabilitation (CPR) techniques. Interventional group is applied with exercises using WLE with Conventional Pulmonary Rehabilitation (EWLE). The CPR protocol is applied for 30-45 minutes per session for 12 weeks and EWLE for 45-60 minutes of sessions with weight loaded equipment with weights from 5 kg to 20 kg with progressive 60 repetitions for 12 weeks. MRC breathless scale and 6 minute walk tests have been used as measuring tools pre and post- exercise sessions. All the 30 patients completed the activity for 12 weeks as a study group.

**Results and Conclusion:** Both groups have shown significant improvement with 6-minute walk test ( $p < 0.05$ ), but EWLE group has shown better improvement  $p$  ( $30 \pm 10\%$  versus  $12 \pm 10\%$  [mean  $\pm$  SD] in the CPR group,  $p < 0.005$ ). Strengthening of upper and lower limb muscles has been noted as a factor increases the endurance in MRC breathless scale as  $20 \pm 10\%$  ( $p < 0.001$ ) in EWLE, but CPR group has shown very lower level of improvement in endurance ( $5 \pm 8\%$   $p > 0.05$ ). The difference between SCPR and CPR in terms of functional improvement has been noted significantly ( $p < 0.01$ ). Addition of exercises using WLE increases endurance and shown better result in interventional group compared to control group in MRC breathless scale and 6 minute walk test. Thus, the study has concluded that adding exercises with WLE increases the endurance thereby breathless is reduced significantly in pulmonary rehabilitation.