

EFFECTIVENESS OF A PULMONARY REHABILITATION PROGRAMME ON PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN A SRI LANKAN GOVERNMENT HOSPITAL WITH MINIMAL EXERCISE EQUIPMENT

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Background: Prevalence of Chronic Obstructive Pulmonary Disease (COPD) in Sri Lanka is rapidly increasing, resulting significant burden on health care resources. Benefits of Pulmonary Rehabilitation (PR) in COPD patients are widely recognized. In Sri Lanka as there are no organized PR programmes, clinicians who treat COPD patients emphasize more on pharmacological treatment and minimal, if any emphasis is given to PR.

Aim: To assess the effectiveness of a pulmonary rehabilitation programme for COPD patients with minimal exercise equipment at National Hospital for Respiratory Diseases (NHRD) Welisara.

Methods: All COPD patients of stage II and over seen at NHRD during one year period were enrolled. Patients with other underlying lung diseases and patients with heart failure were excluded. PR conducted weekly for six weeks. Breathing exercises, endurance and resistance training were done using Aerobic and Yoga exercises. BODE Index a multidimensional grading system based on Body Mass Index (BMI), forced expiratory volume in one second (FEV1) percentage predicted, modified Medical Research Council (mMRC) dyspnoea grading, 6-Minute Walk Distance (6MWD) used for functional and physiological assessment. Quality of life assessed by WHO Quality of Life (QOL) - BREF questionnaire. 1st assessment done before PR and 2nd assessment done at the end of PR. 3rd and 4th assessments done at 12 and 24 weeks intervals. Data analysed with ANOVA.

Results: Out of 66 patients enrolled, 47 completed 1st assessment and 36 remained at final assessment. BMI showed statistically significant improvement at final assessment compared to baseline assessment ($P < 0.001$). mMRC dyspnoea grading, 6MWD, overall BODE Index, QOL analysis showed statistically significant improvement at 2nd assessment compared to baseline assessment and the improvement sustained at 3rd, 4th assessments ($P < 0.001$). No statistically significant improvement seen in FEV1 as a percentage of predicted.

Conclusion: Significant improvement and sustenance in the outcome measures of COPD in terms of BMI, 6MWD, level of dyspnoea and quality of life observed even when PR was done with minimal exercise equipment.

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