INPLASY PROTOCOL

Corresponding author:
Li Yuhong

641297625@qq.com

Author Affiliation:
Qinghai university.

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None declared.

Effects of different exercise regimens on prognosis of patients with chronic obstructive pulmonary disease: A systematic reviews and meta-analyses

Li, Y[1]; Zhang, Z[2].

Review question / Objective: The patients diagnosed with chronic obstructive pulmonary disease were studied and the interventions were different modes of exercise, including aerobic exercise, resistance training, and combined training.the exclusion criteria were as following:(1)non-human studies;(2)non-comparative studies; (3)studies without available data can be extracted; (4)non-original studies.The following outcomes were applied for comparison :main outcomes:Vo2(%pred) 、 Vo2(ml/kg/min) 、 VEmax(l) 、 CAT、 Six minutes walk text 、 leg press、FVC、FEV1、FEV1/FVC/%.

INTRODUCTION

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Condition being studied: Adequately staffed and literature screened.

METHODS

Participant or population: The patients diagnosed with chronic obstructive pulmonary disease.

Intervention: The interventions were different modes of exercise, including aerobic exercise, resistance training, and combined training.

Comparator: Indicators in patients with chronic obstructive pulmonary disease before exercise mode interventions.

Study designs to be included: RCT.

Eligibility criteria: Chronic obstructive pulmonary disease (COPD) is a common preventable and treatable condition characterized by persistent airflow restriction, which progressively develops and is associated with an increased chronic inflammatory response of the airways and lungs to toxic particles or gases. The diagnosis of COPD should be considered in patients with chronic cough, sputum production, progressively worsening dyspnea, and exposure to risk factors for COPD (even in the absence of dyspnea). Pulmonary function tests are required to confirm the diagnosis, and 70% of FEV1/FVC < with bronchodilators confirm the presence of irreversible airflow obstruction. Functional grading is based on FEV1 as a percentage of the expected value. COPD Grade I (mild) FEV1≥80% Predicted Grade II (moderate) 50% ≤FEV1<80% Predicted ValueGrade III (severe) 30% ≤FEV1<50% Predicted ValueGrade IV (very severe) FEV1<30% Predicted or FEV1<50% Predicted with respiratory failure.

Information sources: Pubmed、Embase 、Web of science.

Main outcome(s): Vo2(%pred) 、 Vo2(ml/kg/min) 、 VEemax(l) 、 CAT、 Six minutes walk text、 leg press、FVC、FEV1、FEV1/FVC/%,

Quality assessment / Risk of bias analysis: The quality of include studies were evaluated with Cochrane risk assessment.

Strategy of data synthesis: Choose stata software for data analysis,there was heterogeneity in selecting random-effects pooled effect sizes, and there was no heterogeneity in selecting fixed-effect pooled effect sizes.

Subgroup analysis: None.

Sensitivity analysis: Statistical analyses were performed with Review Ma nager 5.3 (Cochrane Collaboration, Oxford, UK) and STATA 12.0 (StataCorp LP, College Station, Texas). Odds ratio (OR) with 95% confidence interval (CI) were used to compare binary variables. The weighted mean difference (WMD) and 95% CI were calculated for continuous outcomes. Based on the method describe by Wan et al, the medians and interquartile ranges of continuous data were converted to means and standa rd deviations. For all meta-analyses, the Cochrane Qp value and I2 statistic were applied to check heterogeneity. When p value< 0.05 or I2> 50%, there was a significant heterogeneity, a random-effect model wa s used to merge the results. Otherwise, a fixed-effect model was used. A p value less than 0.05 was conside red statistically significant. We performed egger's test to assess publication bias (only for outcomes including ten or more studies).

Country(ies) involved: China.

Keywords: chronic obstructive pulmonary disease , Exercise, prognosis.

Contributions of each author:
Author 1 - Li, Y.
Author 2 - ZHANG, Z.