The effect of aerobic exercise in patients with chronic obstructive pulmonary diseases Gold Stage I or II

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INTRODUCTION
COPD is the most prevalent chronic lung disease and will be one of leading causes of death worldwide by 2020. Aerobic exercise is widely accepted to be part of the treatment of COPD. However, in the early stage of COPD, patients are seldom referred to a physiotherapist because of a lack of symptoms.

OBJECTIVE
A systematic review of randomised controlled trials was conducted to identify the effect of aerobic exercise in adults with mild to moderate COPD.

METHODS
- Databases searched were Pubmed, PEDro and Cochrane using the keywords (pulmonary disease, chronic obstructive AND exercise AND exercise test OR exercise tolerance).
- The inclusion criteria were:
  - over 19 years old
  - Gold Stage I or II
  - published in last 5 years
  - study design RCTs
  - written in English or German
  - intervention aerobic exercise

RESULTS
The initial search resulted in 212 articles after removing duplicates. After screening on title, abstract and full-text 12 articles (totalling 902 subjects) fulfilled our planned criteria for inclusion. (Fig 1)

Exercise capacity was measured with Six-Minute Walk Test, Endurance Shuttle Walking Test and Borg Scale. Also the quality of life was measured with different questionnaires.

Aerobic exercise and strength training are used for intervention such as treadmill, cycling, walking, stairs climbing and strength exercises for upper and lower limbs. (Fig 2)

Overall, a significant improvement in exercise capacity and a reduction of dyspnoea was reported. Additionally, the patients showed an increase in quality of life.

CONCLUSION
Even in an early mild to moderate stage of COPD, an aerobic exercise program seems to have the potential to improve respiration, endurance and quality of life.

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