A systematic review to report the association between morning symptoms and physical activity in chronic obstructive pulmonary disease

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Disclosure belangen spreker

(potentiële) belangenverstrengeling

Voor bijeenkomst mogelijk relevante relaties met bedrijven

- Sponsoring of onderzoeksgeld
- Honorarium of andere (financiële) vergoeding
- Aandeelhouder
- Andere relatie, namelijk ...

Geen

Bedrijfsnamen

n.v.t.
Introduction

Morning symptoms

Common symptom in COPD

Morning most troublesome part of the day

Breathlessness

Cough

Chest tightness


Introduction

Physical activity

Limitations in the morning

More physical inactive than healthy peers

Troosters T. et al. Respir Med 2010
Aim

Is there an association between morning symptoms and physical activity?

Systematically report evidence of the association between morning symptoms and physical activity in COPD patients

Methods

Search on 27th October 2015

PubMed, Embase, Web of Science, COCHRANE, CINAHL, PsycINFO

Inclusion: COPD, morning symptoms and physical activity

Quality assessment with validated checklist (STROBE/CONSORT)
### Results – PRISMA flow diagram

- **Records identified through database searching** (n = 380)
- **Additional records identified through other sources** (n = 0)

  - **Records after duplicates removed** (n = 195)

  - **Records screened** (n = 195)
  - **Records excluded** (n = 163)

  - **Full-text articles assessed for eligibility** (n = 32)

  - **Studies included** (n = 8)
    - 7 observational
    - 1 randomized controlled trial

  - **Full-text articles excluded, with reasons** (n = 24)
    - Development of questionnaires
    - No association (described between morning symptoms and physical activity or one of these items was not mentioned
    - 5 No peer journals
    - 5 Reviews
    - 2 Abstracts

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### Results - Occurrence of morning symptoms

- **All COPD patients**

![Bar chart showing occurrence of morning symptoms in COPD patients](chart.png)
Results - Occurrence of morning symptoms

Patients with morning symptoms

Symptomatic patients

Results - Activity limitations due to morning symptoms

34 to 79% of COPD patients with morning symptoms

35.4 to 41.0% of patients who experience any symptom, felt that morning symptoms affect morning activities

37% of all COPD patients regarded problems as bothersome

Impact of symptoms on normal activities was higher in those with morning symptoms (p=0.007)

74% of all COPD patients took longer to complete morning routines

Sedentary patients experience more symptoms in any part of the day (p<0.05)
Results - Impact medication

Any medication: **21% ↑** ability to carry out morning activities

In line with guidelines: **↓** limitations vs. baseline (*p<0.0001*)

Long acting bronchodilators: **↓** limitations vs. mono-therapy (*p<0.05*)

Discussion

No meta-analysis

Missed when morning symptoms were not adequately highlighted

STROBE and CONSORT checklists

Observational studies
Conclusion

Morning symptoms are common

Morning symptoms are negatively associated with physical activity

Pharmacotherapy may give improvement

Future

prospective research
objective measurement of physical activity
validation of morning symptom questionnaire

Thanks to:
Marise J. Kasteleyn¹
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Christian Taube¹

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Van Buul AR et al.
The association between morning symptoms and physical activity in chronic obstructive pulmonary disease: a systematic review
European Respiratory Review 2017 Jan 3;26(143)