Pain in patients with COPD
A systematic review and meta-analysis

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Introduction

Background
Well-known symptoms in COPD are dyspnoea, cough and wheezing, whereas other symptoms such as fatigue, nausea and insomnia are also frequently reported. Recent literature suggests that pain in patients with COPD is a relevant but poorly understood problem. It is likely that adequate pain recognition and treatment is important in improving QoL, exercise tolerance and lifelong adherence to physical activity in patients with COPD.

Objective
To systematically describe pain in patients with COPD, to examine the prevalence of pain, factors related with pain and pain management interventions in patients with COPD.

Methods
Systematic search according to PRISMA guidelines in PubMed (Medline), Embase, CINAHL and PsychINFO from 1966 to December 2013. Articles that reported original data on pain in patients with COPD, or assessed pain as a domain of QoL in patients with COPD, were considered eligible. We included all types of study designs.

Results
The electronic systematic search identified 1571 eligible citations. Eight studies were identified using other sources. 1491 citations were excluded based on title and abstract. In total, 88 articles were reviewed in detail. 39 studies met the inclusion criteria and were included in the review. Fourteen studies focussed on pain and symptom burden (including pain) in COPD and 25 studies focussed on QoL using a questionnaire that included a separate pain domain.

Pain Prevalence

Pain Severity and interference measured with the Brief Pain Inventory (BPI); range of mean scores (n=5)

Factors related to pain

Significant relation No relation Conflicting results

HRQoL Age, sex Comorbidity

Breathlessness Lung function

Insomnia Smoking status

Fatigue

Anxiety

Depression

Nutritional status

Conclusions
• Pain in patients with COPD is a significant problem with an estimated prevalence of 32 to 60%.
• Pain is related to several other symptoms, quality of life and comorbidity.
• Data synthesis suggests that pain is more prevalent in patients with moderate COPD compared to patients with severe and very severe COPD.
• Literature on this topic is scarce. No studies on pain management interventions could be identified.

Strengths and limitations
• This is the first systematic review on pain in patients with COPD.
• A broad search strategy was used, to minimise the risk of missing any relevant published studies.
• Literature on pain in patients with COPD is limited and included studies showed great heterogeneity, therefore confounding and selection bias are likely to occur.

Implications
• More research on this topic is needed and should focus on: standardisation of assessment tools, causes, course and characteristics of pain and determining a more accurate prevalence. The relationship between pain, disease severity and comorbidity also needs further investigation.
• Pain assessment should be incorporated in regular comprehensive symptom assessment in clinical practise.
• Pain should be discussed in guidelines on COPD.

References

Acknowledgments
This study was financially supported by Zorggroep Solis, Deventer, The Netherlands.