Patients Hospitalised with an Acute Exacerbation of COPD: Is There a Need for a Discharge Bundle of Care?

Abstract:

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Acute Exacerbations of COPD (AECOPD) are the commonest cause of hospitalisation for patients with COPD. A number of interventions are known to improve care for such patients. Internationally and in Ireland, there is significant variation in the delivery of such patients. This study aimed to determine if recommended interventions had been delivered to patients prior to discharge. The most frequently delivered of such interventions were: assessment of lung function and with subsequent hospitalisations and death. A number of interventions have been shown to be of benefit for patients hospitalised with an AECOPD. Guidelines recommend that a number of interventions should be in place by the time patients are discharged from hospital to the community. Despite these guidelines, there is evidence that many patients do not receive the recommended interventions while in hospital. Within hospitals, respiratory physicians are more likely to deliver recommended interventions when compared to other specialists. The aim of the study was to identify the proportion of those patients hospitalised with an AECOPD who received a number of recommended interventions by the time of discharge. A secondary aim of the study was to examine the association between the delivery of recommended interventions and care under a respiratory physician and a respiratory clinical nurse specialist (RCNS).

Methods

A retrospective review of charts was carried out to determine if ten specific interventions had been delivered to patients prior to discharge (Table 1). The interventions included were agreed with key respiratory physicians in the hospital and matched those recommended by guidelines (e.g. GOLD). A total of 148 patients were reviewed with 174 (74%) charts available for analysis. Each chart record was reviewed to see if there was documentation of delivery of interventions and a checklist form was completed accordingly. Smoking cessation assistance, documentation of FEV1, follow-up arranged, and recommendations regarding influenza vaccination were included as interventions only if the patient was assessed for long term oxygen therapy (LTOT). Influenza vaccination advice or history was included as an intervention only for those admissions during the influenza season.

Results

The median age of the patients was 73 years, and 54% were male. More than 80% were General Medical Service (GMS) patients (Table 2). A total of 38% were current smokers. Smoking status was not recorded for 5.7% of patients. The proportion of patients who received each recommended intervention is shown in Table 3. Compliance with any single intervention was not 100% across the patient group. More than half (55.2%) of patients received care from a respiratory physician. Care under a respiratory physician was associated with a higher delivery of the following interventions: smoking cessation assistance, arrangements for follow-up, advice regarding pneumococcal vaccination, arrangements for vitamin D when appropriate (Table 4). However, the delivery of many interventions remained low, even for respiratory physicians: 9.4% of patients were referred for pulmonary rehabilitation, 23.3% received influenza vaccination advice, and 10.3% for smoking cessation assistance. For other specialties the rate was even lower at 10.1%, 19.1% and 19.1% respectively. No statistically significant association was found between referral rates to a RCNS by respiratory physicians vs other specialties (74.4%, 66.7%, 92.3). A greater proportion of patients who were seen by a RCNS received the following interventions: review of inhaler technique, written management plan, smoking cessation assistance, documentation of FEV1, follow-up arranged, and recommendations regarding influenza vaccination. These differences were statistically significant (p<0.05).

Discussion

Our study is consistent with other studies, which have demonstrated poor compliance with internationally agreed COPD interventions. In our study, some interventions were delivered to only a minority of patients e.g. only 11% received their management plan in writing, a number of interventions were more frequently delivered when care was under a respiratory physician or RCNS. In particular, patients seen by a RCNS during admission were more likely to receive interventions such as smoking cessation advice, arrangements for follow-up, and pneumococcal vaccination. However, some interventions were still not delivered to many patients. Many barriers to implementing interventions for patients with AECOPD have been identified in the literature. Lack of knowledge of the benefits of some interventions e.g. pulmonary rehabilitation may be a factor, particularly for non-respiratory physicians. However, a lack of knowledge cannot explain the low level of delivery of some interventions by those specialised in respiratory medicine. Clinical staff, particularly non-respiratory physicians and nurses may not have the skills to demonstrate inhaler technique. In one study, as few as 7% of healthcare staff could demonstrate the correct use of inhalers to patients. This was likely to be a factor in our study as only one patient not seen by a RCNS had their inhaler technique reviewed. There may be the perception amongst hospital doctors that some interventions are the responsibility of general practitioners. This has been reported in the literature in relation to smoking cessation and vaccination. In Ireland, where vaccination is administered in primary care this may be an issue.

Smoking cessation in patients with COPD has been shown to decrease their mortality yet in our study smoking status was
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A number of limitations to this study exist. As with other studies of this kind, it is possible that interventions were delivered to patients but not recorded in patients charts. This study was carried out in a single centre and results may not be generalisable to other hospitals. Given that this centre has a multi-disciplinary respiratory team these results may in fact be more favourable than in other centres. Results of this study are however consistent with findings from other studies. Several initiatives have been developed to improve the delivery of recommended interventions to hospitalised patients with COPD. One strategy is the use of electronic reminders. However, evaluation of this strategy did not demonstrate increased adherence to guidelines in one study. A survey of physicians in the USA identified measures that improved adherence to guidelines, including changing responsibilities of clinical staff, and providing feedback on routine guideline adherence to clinicians. Whether these factors translate to increased adherence to guidelines is unknown. Introducing quality improvement initiatives in the management of COPD may result in the reporting of performance to clinicians improved the delivery of interventions in an outpatient setting in one study.

Bundles of care have been introduced for the management of hospitalised patients with COPD at different stages in their care pathway, in order to help standardise the care of patients, and maximise adherence to guidelines. We have previously demonstrated that the introduction of an admission care bundle improves the quality of care delivered to patients admitted with COPD (British Thoracic Society, together with a number of partners have developed discharge bundles of care for patients with COPD, which are now in use in 18 UK hospitals. A discharge bundle of care is a checklist to ensure that patients are discharged from hospital to the community have received a number of high impact interventions with the aim to reduce readmissions. The introduction of a discharge bundle of care in hospital has resulted in reduced readmissions for COPD and increased adherence to guidelines. Introduction of a discharge bundle of care resulted in improved adherence rates. Inclusion of these included changing responsibilities of clinical staff, and providing feedback on routine guideline adherence to clinicians. Whether these factors translate to increased adherence to guidelines is unknown. Introducing quality improvement initiatives in the management of COPD may result in the reporting of performance to clinicians improved the delivery of interventions in an outpatient setting in one study.

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