Are pharmacists reducing COPD’S impact through smoking cessation and assessing inhaled steroid use?

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Summary
Background: The National Institute for Health and Clinical Excellence (NICE) COPD 2004 guidelines recommend:
* COPD patients who smoke should be encouraged to stop at every opportunity;
* Inhaled corticosteroid should be used only among patients with moderate to severe COPD;
* Pharmacists should identify smokers and provide smoking cessation advice.

The community pharmacy contract requires pharmacists to review patients’ medications, creating an opportunity for reviewing the prescribing of inhaled corticosteroids in COPD.

The survey explored the degree to which community pharmacists in North West England identify and provide advice to smokers and assess prescribed inhaled corticosteroids among COPD patients.

Methods: A self-completion questionnaire was sent to 2080 community pharmacists from the 2005 pharmacist census database.

Results: Of the 1051 (50.5%) respondants, 37.1% mentioned COPD as a risk from smoking most or every time and 54.5% sometimes or rarely, and 19.6% routinely asked about smoking status when dispensing COPD medication. Pharmacists with more than 20 years experience were more likely to have read the Guideline compared to pharmacists with 10 years or less (OR: 1.54; 95% CI: 1.13 to 2.10). Pharmacists who had read the NICE Guideline (46.8%) were around
Introduction

It is estimated that the number of patients suffering from chronic obstructive pulmonary disease (COPD) in England and Wales, including those who are undiagnosed, is as high as 3 million. Smoking is recognised as the most important causal factor for COPD, and provokes exacerbations which are distressing and disruptive events for the sufferer and their carers, and are associated with increased hospital admissions and reduced survival. Smoking cessation is the most significant component of COPD management, and the UK National Institute for Clinical Excellence (NICE) COPD Guidelines 2004 and 2010 recommend that all COPD patients who smoke should be encouraged to stop at every opportunity.

The UK Department of Health’s A Vision for Pharmacy in the new NHS and Choosing health through pharmacy - a programme for pharmaceutical public health, recommends that pharmacists, as health care professionals in the community, should promote healthy lifestyles including offering smoking cessation interventions. The NICE report Helping smokers to stop: advice for pharmacists in England suggests that pharmacists should advise people how to stop smoking, provide information on supply of cessation medications and some should provide smoking cessation services.

In patients with severe COPD use of inhaled corticosteroids (ICS) reduces the frequency of exacerbations. Therefore current advice is that their use should be limited to that group. However, the use of ICS among COPD patients exceeds the expected rate, suggesting that many patients with mild COPD are treated with ICS. This study was completed before the guidelines were updated by NICE in 2010.

The ‘Medicines use review (MUR) and prescription intervention service’, part of the new UK community pharmacy contract, was introduced into health services in England and Wales in 2005. The focus of the contractual framework is not primarily on diagnosis, but on optimising therapies prescribed by the GP. It requires community pharmacists to review patients’ medications for identified conditions, such as respiratory disease, and send reports to GPs on any suggested changes to the patients’ prescriptions. As part of the MUR process, community pharmacists could identify COPD patients and conduct reviews when dispensing ICS in order to identify COPD patients who may not benefit from this treatment.

This study aimed to explore COPD management among community pharmacists working in North West England in relation to identifying smokers and promoting smoking cessation, and reviewing the prescribing of ICS. We also wished to explore if the pharmacist confirmed with the patient had COPD or asthma.

Methods

Community pharmacists with registered addresses in North West England were identified from the Centre for Pharmaceutical Sciences, University of Manchester database, which stores data from Royal Pharmaceutical Society of Great Britain (RPSGB) 2005 census of pharmacists. The database includes all pharmacists working in the community, hospital, industry and academia in full-time, part-time or locum employment.

A self-completion questionnaire (available on request), which was piloted with two community pharmacists outside the North West region, was sent in March—April, 2007. The questionnaire aimed to elicit information on the following:

- Years of practising as a community pharmacist
- Interest in improving knowledge about COPD
- Practice in asking about smoking status when dispensing COPD medications eg ICS
- Practice in mentioning COPD as being associated with smoking
- Practice in making COPD patients aware of risks from smoking
- Practice in asking about patient’s diagnosis of COPD or asthma when dispensing inhaled corticosteroids

A reminder letter and a second copy of the questionnaire were sent to non-responders. The details of the survey are as explained elsewhere. Data were analysed in Microsoft Excel 2003 and using Open-Epi. The survey was regarded as a service evaluation by the University Research Ethics Committee.

Results

Questionnaires were sent to 2273 pharmacists. However, 193 of those had died, retired, moved outside the North West England region or were no longer practising and hence were excluded from the study. 1051 out of 2080 eligible community pharmacists practising in the Region completed and returned the questionnaire giving a response rate of 50.5%.

The questionnaires were received from community pharmacists with varying degrees of experience: 286 (27.2%) with 0–10 years, 236 (22.5%) with 11–20 and 458 (43.6%) with more than 20 years; 71 (6.7%) pharmacists did not report the number of years they had been practising as a community pharmacist.

Of 1047 pharmacists who responded to this question, 929 (88.7%; 95% confidence interval 86.7–90.5%) were aware of...
the NICE Guideline on COPD Management in Primary and Secondary Care (2004), and 490 (46.8%; 43.8–49.8%) reported that they had read it. Compared to the pharmacists with 10 years or less experience, those with more than 20 years experience were more likely to have read the Guideline (odds ratio (OR) 1.54; 1.13–2.10).

More than 80% of pharmacists felt that they needed to improve their knowledge about COPD management \((n = 848; \text{Table 1})\); 90.7% thought that training in COPD management would be beneficial \((n = 953; \text{Table 1})\).

In an open question pharmacists were asked to list the specific types of consultations where they would ask about smoking status. Of the 579 (55.1%) who responded, 62 (10.7%; 8.4–13.4%) reported asking about smoking status if the consultation or prescription was for COPD, compared to 115 (19.9%; 16.8–23.3%) if it was for asthma. A further 264 (45.6%; 41.6–49.7%) reported asking during consultations for respiratory symptoms, which is very likely to include asthma and COPD consultations as well as others.

When pharmacists were asked whether they routinely asked about the smoking status of their clients when dispensing COPD medication, 203 (19.6%; 17.3–22.1%) of the 1037 who responded to this question stated that they did, and 189 of those (93.1%; 89.0–96.0%) stated in the following question that they also educated smokers about the additional risk of continuing smoking. Of the 834 (80.4%; 77.9–82.8%) community pharmacists who did not ask about smoking status routinely when dispensing COPD medication, 30 (3.6%; 2.5–5.0%) nevertheless reported that they did provide education about smoking. Therefore, 21.3% of all responders educated their clients receiving COPD medication about the additional risk of continuing to smoke. Participants who had been in practice for more than 20 years were more likely to ask about smoking status of their clients than those with 10 years or less experience; however, the odds ratio was not statistically significant (OR 1.33; 0.91–1.95).

Overall, 387 (37.1%) of the pharmacists reported that they mentioned COPD ‘most times’ or ‘every time’ as being a risk from smoking; 568 (54.5%) mentioned it ‘sometimes’ or ‘rarely’.

In response to a prompted question, 87 (8.3%) community pharmacists reported that they asked ‘most times’ or ‘every time’ whether the patient was diagnosed with COPD or asthma when dispensing ICS. A further 709 (68.0%) also asked, but only ‘sometimes’ or ‘rarely’. The community pharmacists who had read the NICE Guideline were around twice as likely to mention COPD as a risk from smoking, ask the patient’s diagnosis if ICS were dispensed, and ask about smoking routinely if COPD medication was dispensed, compared to those who had not read the guidelines \((p < 0.005; \text{Table 2})\).

### Table 1: Community pharmacists’ opinions on improving their knowledge further.

<table>
<thead>
<tr>
<th>Need to improve knowledge on COPD management (1046 responders to this question)</th>
<th>Yes n % (95% CI)</th>
<th>No n % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training would be beneficial (1041 responders to this question)</td>
<td>81.1 (78.6–83.4)</td>
<td>18.9 (16.6–21.4)</td>
</tr>
<tr>
<td></td>
<td>91.5 (89.7–93.1)</td>
<td>8.5 (6.9–10.3)</td>
</tr>
</tbody>
</table>

Discussion

This survey found high levels of awareness of the NICE COPD guidelines among community pharmacists, though less than half had read the guidelines. Around a fifth reported usually discussing smoking when dispensing COPD medication, with most of these pharmacists also reporting that they educated COPD patients who are smokers about the risks of smoking. A larger proportion (40%) reported that they drew smokers’ attention to the risks of COPD due to smoking. Only 8% of pharmacists reported that they asked most times about the diagnosis when dispensing COPD medications. It therefore seems unlikely that a full MUR, including an assessment of COPD severity, occurs with very high frequency.

Strengths of the study are that it included a large number of subjects from a clearly defined population of pharmacists. Weaknesses include the moderate response rate, the restriction to pharmacists from the North West of England (potentially affecting generalisability). Due to the low response rate, it is possible that there was some selection bias if response was higher among different practice types e.g. rural vs urban practices, or that the responding pharmacists had systematically different practice from non-responders.

We found a link between reading of the NICE COPD guidelines and the frequency of asking about smoking, educating smokers about the risks of COPD and asking about the diagnosis among patients dispensed COPD medications (Table 2). However, due to the cross-sectional nature of the data, the direction of causality for these associations is not clear, and it may be that pharmacists who carry out these best practice activities are also more inclined to read NICE guidelines, rather than the alternative explanation that reading the guidelines resulting in changed behaviours.

Another potential explanation is that the association of having read the NICE guidelines with increased implementation of recommended practices like asking about smoking status could be due to confounding factors. These could include whether the pharmacist was in a group of practices rather than being an independent practice (group practices might have specific training schedules and policies), and also years of practice and levels of qualifications and training (in general or in COPD management in particular). In order to keep the questionnaire short, we did not ask about these factors.

It should be noted that the questionnaire was designed based on the 2004 version of the NICE guideline; this was updated in 2010. The guidance on smoking is unchanged although the recommendations around the use of corticosteroids in COPD were modified, however, the changes did
not affect the validity of the questionnaire or the interpretation of the results.

Smoking cessation is considered as one of the main roles of pharmacists, due to the community pharmacists’ regular contact with large numbers of people every day. Although NICE COPD Guideline recommends that COPD patients who smoke are encouraged to stop "at every opportunity", and the Guideline was claimed to be read by almost half of the pharmacists, only around one in five (21.3%) stated that they educate smokers about the risks of smoking when dispensing COPD medication.

The finding that reading the COPD Guideline was associated with increased likelihood of asking about smoking status, mentioning COPD as a risk from smoking, and asking about the diagnosis among patients dispensed COPD medications suggests that the NICE Guidelines have had positive effects on practice. However, as mentioned above the direction of causality is not clear, and it is also possible that the association is due to confounding factors.

The role of community pharmacists in chronic disease management has long been discussed and the medication review is seen as one of the key activities where they can make a contribution. A review of the MUR service showed that respiratory diseases were the most commonly targeted condition by MURs, 38.7%, as stated by pharmacy leads in primary care organisations. The study also showed that 38.0% of pharmacists provided MUR to their patients in the first year of the service and uptake was found to be increasing. It is suggested that an average community pharmacy serves 78 COPD patients. The MUR service is certainly an important opportunity to identify inappropriate use of ICS but even those pharmacists who don’t offer a full MUR could review ICS use in patients when dispensing them. However, in our study only 8.3% of community pharmacists reported that they ask about the diagnosis most times or every time and 68.0% sometimes or rarely when dispensing this group of medications. This suggests that further work is required to identify COPD patients who could benefit from a MUR.

In our study we found a significant association between pharmacists’ experience, and them having read the NICE guidance on the treatment of COPD (2004). A study published in 2008 from the same population noted the opposite association, that is, that more experienced pharmacists were less likely to be aware of the NICE document ‘Helping smokers to stop: advice for pharmacists in England’ (2005). This could be explained by the novelty of the COPD guidelines versus the plethora of information on smoking cessation. However, we were not able to test the validity of this observation.

The majority of community pharmacists wanted to learn more about COPD management (81.1%). This suggests that a training programme would have a high uptake. Interestingly, those who had not read the Guideline were more likely to be interested in improving their knowledge than those who had read them (87.8% vs 72.2%).

### Conclusion and recommendations

The results from this study suggest that further work over and above the distribution of current NICE guidelines is required to encourage and support community pharmacists to carry out smoking cessation and educational interventions, and to review medication use among COPD patients prescribed ICS.

### Conflict of interest

Judith Thornton has worked for NICE since 2009.

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