

Community pharmacists and antimicrobial stewardship – what is their role?

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Abstract

Title

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Introduction

Increasing antimicrobial resistance is one of the pressing concerns globally. As there is widespread use of antimicrobials in the primary care setting, community pharmacists have an important role in ensuring appropriate use of antibiotics. The objective of this study was to assess the views of community pharmacists in one Clinical Commissioning Group towards antimicrobial stewardship.

Method

A survey of a convenience sample of community pharmacists was undertaken using a questionnaire developed following a review of the literature.

Results

Fifty-seven of 62 community pharmacists completed the survey. At the point of dispensing, only 18% of respondents claimed to undertake routine questioning of the patient about the indication for the antibiotic. Nearly two-thirds of pharmacists would wish to check routinely the antibiotic prescribed against local guidelines, time allowing. Advice on completing the antibiotic course was claimed to be always given by 88% of respondents, though only 19% claimed to always advise about avoiding the sharing of antibiotics with others.

Discussion

In this study, we found approximately a third of pharmacists had not heard of the term antimicrobial stewardship. Provision of advice to patients about their antibiotic treatment was not universally undertaken. The majority of pharmacists would wish to monitor antibiotic use as they clinically screen prescriptions as part of their everyday practice, though various barriers (e.g. patient, relationship with the prescriber) were identified.

Conclusions

Community pharmacists and their staff are in a position to support antimicrobial stewardship activities, though improvements are needed in some basic functions such as advice giving at the point of dispensing. Their willingness to challenge inappropriate antibiotic prescribing is an opportunity to be explored and supported.

Keywords: antimicrobials, community pharmacist, communication, patient education.

Introduction

Antimicrobial medicines play a major role in controlling infectious diseases. However, their widespread use – often overuse and misuse – is causing growing resistance to their efficacy. The implications of antimicrobial resistance are a major threat to future healthcare, hence one of the key challenges – globally, nationally and locally – is to ensure the best use of antibiotics. The term ‘antimicrobial stewardship’ (AMS) is

collectively used for a number of quality improvement activities focused on increasing and sustaining the appropriate use of antimicrobials for the treatment and/or prevention of infectious diseases. It is in primary care that the greatest proportion of antibiotics is prescribed, therefore AMS programmes need to be extended to and integrated with primary care. Though all healthcare workers, as well as the public and patients, have a role in tackling antimicrobial resistance, various organisations

have recognised the importance of utilising the skills and training of the community pharmacist to contribute to the reduction of antimicrobial resistance.^{1,2,3}

The WHO Regional Office for Europe has undertaken a study investigating the role of pharmacists in respect to encouraging prudent use of antibiotics and prevention of antibiotic resistance emergence and found that pharmacists are among the best positioned health professional group to tackle antibiotic resistance.⁴ It is argued that the pharmacist, who has the last contact with the patient before he or she receives an antibiotic medicine, is in a position to act as gatekeeper. Various recommendations have been made for action that pharmacy teams can undertake.⁵ For instance, it is suggested that pharmacists have an important role to play in monitoring antibiotic use as they clinically screen drugs as part of their everyday practice. In addition, people have considerable trust in advice about antibiotic treatment from GPs, nurses and pharmacists.⁶ However, there remains limited research in the area of community pharmacists and their role in the optimisation of antibiotic prescribing.

We set out to ascertain the views of community pharmacists to their actual and potential roles in AMS in one clinical commissioning group (NHS Kernow CCG) which has 102 community pharmacies. The CCG Prescribing Team has a pharmacist dedicated to promoting AMS activities across primary care and, in the main, messages and activities directed at general practice are also shared with community pharmacy.⁷ In addition, specific resources (e.g. patient information leaflets and promotion of the antibiotic guardian resource and pledge campaign for Antibiotic Awareness Day), have been distributed to community pharmacies.

Method

A review of the literature was undertaken to develop the survey questions, which were piloted with two pharmacists. Minor amendments were made. The questionnaire (available upon request from the authors) had a brief introduction describing the problem of antimicrobial resistance and consisted of closed questions with predetermined answers (some of which were multiple choices) though two questions had the option for free text answers. The questionnaire was handed out at an evening meeting, organised by the CCG and Local Pharmaceutical Committee, in March 2017. If community pharmacists wished to participate in some of the CCG-commissioned pharmacy services they had to attend this training meeting or, alternatively, complete online training. Pharmacists were asked to complete the questionnaire upon arrival and prior to the commencement of the meeting. The small number of other pharmacy team members who were not pharmacists were not expected to complete the questionnaire.

Results

Fifty-seven (92%) of the 62 pharmacists attending the event completed the survey. Responses were received from a mix of manager/sole pharmacists (36, [63%]), locum (9, [16%]), superintendent (5, [9%]), additional pharmacist (4, [7%]), and other (3, [5%]). No other demographic information of the participants was collected.

Thirty-five (61%) respondents had heard of the term AMS and 22 (39%) had not. Of the 35 who had heard of this term, 24 (69%) felt confident in their understanding of its meaning. Table 1 shows that only 21 pharmacists (37%) claim that in their

Hardly ever other than 'special' circumstances	31 (54%)
More often than not	11 (19%)
I try to do this routinely	10 (18%)
Never	5 (9%)

Table 1: Frequency with which the pharmacy team asked the patient what condition/infection was being treated when dispensing an antibiotic prescription

Patients may not know the diagnostic name of their infection	41 (72%)
Patients may not wish to tell the pharmacist of their infection	40 (70%)
My relationship with local prescribers would be harmed by this checking	14 (25%)
I'm not confident enough about antibiotics, even with access to the guidelines, to challenge the prescriber	11 (19%)
Typically, in my experience, it is not the patient who presents with the antibiotic prescription	10 (18%)
I and my staff have no time to do this asking and checking in the pharmacy	8 (14%)

Table 2: Potential barriers to the role of clinically checking an antibiotic prescription against local guidance (respondents could tick all that apply)

pharmacy there is a standard approach to questioning the patient as to the indication for the dispensed antibiotic.

When asked if they thought they had a role in challenging the prescriber, assuming they knew the infection being treated and had checked the antibiotic prescribed against local guidelines, 35 (61%) responded "Yes I would wish to do this routinely, time allowing", 20 (35%) responded "I might be able to do this but not routinely", and 2 (4%) responded "I would not wish to be involved in this role." Table 2 illustrates the extent to which pharmacists perceive barriers to assuming the role of clinically checking an antibiotic prescription against local guidance.

When asked to reflect on practice in their pharmacy and how often patients are asked about antibiotic adverse effects at the point of dispensing, 22 (39%) answered more often than not, 19 (33%) try to do this routinely, and 16 (28%) hardly ever other than in 'special' circumstances. No one answered that they never do this. In response to the question asking if they or their staff verbally advise the patient or carer to always complete the course when handing over dispensed antibiotics, 50 (88%) indicated yes and 7 (12%) indicated this occurs sometimes. Similarly, when asked if they or their staff verbally advise the patient or carer not to share antibiotics with others when handing over dispensed antibiotics, 11 (19%) answered yes, 36 (63%) answered no, and 10 (18%) sometimes.

There were 34 free text responses to the question asking what they thought the community pharmacist could do to help tackle antimicrobial resistance. The main themes described were patient education, information and awareness on appropriate antibiotic use and the likely duration of any infection; offering alternative options for managing mild infections; collaboration with local GPs to improve antibiotic use; clinically checking antibiotic prescriptions from dentists; supporting adherence with the antibiotic regimen e.g. with the new medicines service.

Discussion

In spite of the prominence given to AMS,^{5,8} we found that a third of community pharmacists reported that they had not heard of the term, and of those that had heard this term just under a third lacked confidence in understanding its meaning. We also identified similar gaps in the content of the interaction between the patient and the pharmacy team member as reported in a recent survey of 50 pharmacists from northern England.⁹ In our survey, 37% (21) answered that staff do explain about the avoidance of sharing antibiotics with friends and relatives at least some of the time, whereas Clifford and colleagues noted that 52% (26) pharmacists communicated about this.⁹ Other comparative results are that 88% (50) of our respondents explained about completing the course versus 62% (31) of pharmacists in northern England. As regards asking the patient what the antibiotic is for, our responses range from 9% (5) answering never to 54% (31) answering hardly ever other than in special circumstances, yet in the northern England survey 30% (15) pharmacists never ask the patient this question.

Clinical screening of prescriptions

In the northern England survey, pharmacists showed poor results when asked whether they checked prescriptions against their local area antimicrobial prescribing guidelines,

with 76% (38) not doing so. We did not specifically ask whether this actual checking occurs in Cornish pharmacies, though we did ask if this was a role for the pharmacy staff in challenging the prescriber if they knew the infection being treated. Only 4% (2) responded that they would not wish to undertake this role. However, as only 37% (21) of our respondents claimed to ask the patient what infection is being treated, this suggests that pharmacy teams cannot be clinically checking prescriptions as completely as they should be. Our respondents identified a range of barriers to this act of checking against guidance such as patients not knowing their infection or not wanting to divulge it to the pharmacy team. Interestingly, in the northern England survey 15 (30%) never ask what an antibiotic is for and qualitative data showed that pharmacists thought this question too sensitive to ask a patient. It has been suggested that adding the indication for a medicine onto a prescription may be of value; however this notion appears not to have been formally evaluated and, in relation to antibiotic prescriptions, though it would assist the pharmacist in checking against local guidance patients may not wish the reason for the antibiotic to be widely known.

A qualitative study from Australia with 24 community pharmacists exploring their role in the optimisation of antibiotic prescribing and utilisation identified four main themes.¹⁰ These were patient perceptions and behaviours, prescribing behaviours, pharmacists' roles and responsibilities, and health care system interventions in relation to antibiotic utilisation. Under the theme of roles and responsibilities, pharmacists emphasised the need for greater patient education and counselling by pharmacists to ensure the optimal use of antibiotics. Indeed, various studies have shown confusion among consumers about the efficacy of antibiotics in the treatment of colds and flu and a lack of knowledge despite education campaigns. One such study concludes that there is a need for pharmacists (and other health care professionals) to elicit beliefs and understanding about antibiotics and to tailor advice appropriately according to the health literacy of each patient.¹¹ Though the theme of patient education emerged in the free text responses in our Cornish survey, we do not know how skilled the pharmacists are at identifying and responding to health literacy issues.¹²

In the Australian study¹⁰ participants did agree that it is the pharmacist's responsibility to confirm that antibiotic prescribing follows current therapeutic guidelines as well as checking for any significant interactions or allergies. However, they felt that the extent to which they could influence the physician's prescribing behaviour was dependent on their relationship with the physician. Again, an American study, conducted in the late 1990s, was undertaken to examine influences on community pharmacists' communication with consumers about antibiotics and antibiotic resistance.¹³ Whereas most pharmacists agreed that their role in educating patients is important, they also noted several barriers prevent them from engaging in campaigns, such as time constraints, lack of educational materials, and fear of harming relations with physicians. This theme of harming the relationship with the prescriber by checking the antibiotic prescribed against local guidance was noted by one-quarter of our respondents. Effective communication between pharmacist and physician has to be a core feature of antimicrobial stewardship.

Limitations

Limitations of this small Cornish study include the relatively small sample size undertaken in just one CCG. The number of pharmacists working across our 102 pharmacies is uncertain but we estimate that the 57 responses represents about a quarter of the regular pharmacist workforce and from a third of the pharmacies. Hence the findings of this study may not be as applicable to community pharmacists in other settings. We also recognise the reliance of the survey on self-reporting with the associated potential for social desirability bias where respondents may give expected answers. Attempts to minimise this tendency were made by emphasising that the responses would be processed anonymously. In addition, there are limitations associated with delivering a survey that was brief and consisted of closed-ended questions which limit the answers of the respondents to those options provided on the questionnaire, albeit these responses were based on the literature review.

We did not ask about other possible community pharmacy services related to antimicrobial activities such as vaccination,¹⁴ the provision of TARGET patient information leaflets adapted for use within community pharmacy, or enhanced services such as supply of antibiotics for urinary tract infection as a minor ailment service, point of care testing within pharmacies, or test and treat service for sore throats.¹⁵

Conclusion

Community pharmacists and their staff are in a position to support AMS activities, though improvements are needed in some basic functions such as providing information at the point of dispensing on the appropriate use of antibiotics, emphasising the need to finish the course, and not to save antimicrobials for another infection or to share them with others. Their willingness to challenge inappropriate antibiotic prescribing is an opportunity to be explored and supported by the CCG and Local Pharmaceutical Committee, potentially utilising general practice pharmacists as a means of enhancing the adoption of a collaborative approach to AMS between community pharmacy and the surrounding general practices.

Declaration of interests

The authors having nothing to declare.

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