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**Community nursing and antibiotic stewardship: The importance of
communication and training**

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Abstract

Good health can so often be taken for granted, until it is taken away. Once ill, it is common for patients to request antibiotics to restore themselves to health (Davis et al., 2017). However, it is reported (Gualano et al., 2015) that there is a lack of understanding in how antibiotics work, false assumptions in what antibiotics can treat (i.e. viral infections), and often a misuse of them when prescribed (i.e. not completing the full course once feeling better). Patient expectations for antibiotics and time constraints can influence health professionals' decisions to prescribe (Fletcher-Lartey et al., 2016; Lum et al., 2018). Yet antibiotic stewardship, and the nurses role within this, is deemed important to reduce the risk of antimicrobial resistance (Edwards et al., 2011). Many health professionals, including nurses, identify themselves as 'Antibiotic Guardians' (Bhattacharya et al., 2016; Kesten et al., 2018), exercising the importance of a non-prescribing decision in appropriate situations. However, there is fear that not meeting patient expectations will lead to low patient satisfaction (Lum et al., 2018; Rowbotham et al., 2012). Therefore, it has been argued (Gualano et al., 2015) that health professionals should aim to educate their patients on the need and appropriate use of antibiotics. Communication skills are essential to optimise treatment outcomes while maintaining a positive patient-practitioner relationship (Chater, 2018; Jubraj et al., 2016). To communicate effectively, health professionals must use a range of speaking and listening micro-skills to ensure that patient concerns are acknowledged and discussed, misunderstandings are addressed, and patient-centred decisions are made. While nurse prescribers have reported (Rowbotham et al., 2012, Courtenay et al 2017) that they feel they have some of the communication skills relevant to dealing effectively with patients without the need to prescribe antibiotics, it is acknowledged that training to enhance confidence and skills in this area is needed.

Key words: Antibiotic Stewardship, Patient Expectations, Antimicrobial Resistance, Non-Prescribing Decisions, Communication, Patient Satisfaction

Word count: 2471 (excluding title, abstract and references)

Introduction

At the heart of community nursing lies effective communication skills (Chater, 2018). Nurses must understand the patient's symptoms and condition, alongside their capability to self-manage, motivation to engage in effective healthcare strategies and opportunities afforded to them by their physical and social environments. To do this, they need to draw on conversation skills that can facilitate optimal treatment and health outcomes (Jubraj et al., 2016). This can be achieved through engaging the patient in the conversation about the best treatment approach for them, focusing on how this may be achieved, evoking ways to reach optimal health and planning a way forward (Rollnick, Miller & Butler, 2008; Chater, 2018). This process is especially important when it comes to antibiotic stewardship, a term used to describe the combined efforts of health professionals and the public to use antimicrobials responsibly (Dyar et al., 2017).

There are approximately 31,000 nurses in the United Kingdom (UK) that have the same prescribing capability as doctors, with the numbers increasing steadily (Courtenay et al., 2017). These prescribers are responsible for around 8% of all primary care antibiotic prescriptions (Courtenay et al., 2017) and evidence confirms that patient expectations can influence their decision to prescribe an antibiotic (Rowbotham et al., 2012). Research has shown that antibiotic stewardship is seen as a welcomed extension to the traditional roles in nursing (Carter et al., 2018). However, as with other health professionals, they often face the challenge of dealing with a patient who may feel their symptoms would benefit from an antibiotic prescription, but clinical judgement would argue otherwise (Lum et al., 2018; Rowbotham et al., 2012). In these circumstances, effective communication skills could support them to navigate their way through a difficult conversation, that concludes with a non-antibiotic prescription outcome, without causing patient dissatisfaction (Rowbotham et al., 2012, Courtenay et al 2016). This, in turn, would maintain their antibiotic stewardship and their identity as an 'Antibiotic Guardian' (i.e. taken a pledge to prescribe responsibly), if they are

one of the many thousands of health professionals to have made this pledge (Bhattacharya et al., 2016; Kesten et al., 2018).

Background

One of the greatest threats to world-wide health is multi-drug resistant infections (World Health Organisation: WHO, 2017). Antimicrobial resistance (AMR) is responsible for an estimated 25,000 deaths and €1.5 billion in extra healthcare costs every year in the European Union (EU, 2017). AMR can lead to lower protection for surgical patients, an increased duration in hospital and longer illnesses (WHO, 2017).

The use of antibiotics has increased by over a third in the last decade (Van Boeckel et al., 2014). As a leading driver of AMR, it is important that ways to support appropriate antibiotic prescribing are developed. General Practitioners' (GPs) prescribing behaviour has been shown to be influenced by: perception of patient expectations (Tonkin-Crine et al., 2011), patient pressure (Coenen et al., 2006), clinician characteristics (Brookes-Howell et al., 2012), diagnostic uncertainty and fear of complications (Kumar et al., 2003). Evidence to date (Arnold et al., 2005; Ranji et al., 2008) suggests that interventions that are complex and multifaceted in addressing barriers to change in specific healthcare settings are effective at reducing inappropriate antibiotic prescribing by general practitioners. There is less evidence for nurse prescriber behaviour, however, it seems similar barriers exist (Courtney et al., in press), with lack of knowledge and confidence highlighted as barriers to antimicrobial stewardship activities, while good communication skills has been deemed a core facilitator (Fisher et al., 2018) .

Using theory to understand antibiotic stewardship

Growing evidence supports the use of theoretical frameworks to identify barriers and facilitators to health professional behaviour and one such approach is the Behaviour Change Wheel (BCW) (Michie et al., 2011). The BCW encompasses three layers that should be

considered when supporting behaviour change; 1) the determinants of behaviour (COM-B); 2) intervention functions with which to intervene with these determinants; 3) policy categories to support change on a more structural level. The COM-B system forms the hub of the BCW and can facilitate a behavioural diagnosis by understanding the determinants of behaviour. Using COM-B can help identify the drivers of practitioner behaviour in relation to: Capability, both physical (such as skills) and psychological (such as knowledge); their Opportunity, both social (norms of practice) and physical (time/space); and Motivation, both reflective (such as confidence and intention) and automatic (driven by identity, emotion or habit). This model is helpful when considering antimicrobial stewardship (Lorenzatto et al., 2018), as it can be easily mapped to Intervention Functions (i.e. Education, Training, Enablement) and a selection of Behaviour Change Techniques (BCTs: i.e. Instruction on how to perform the behaviour, restructuring the social/physical environment) from the BCT Taxonomy Version 1 (Michie et al., 2013) that can be selected as intervention components to facilitate behaviour change (Michie et al., 2014). The delivery of these BCTs is also important. Motivational Interviewing (Miller & Rollnick, 2012) is an effective behaviour change delivery approach, which encapsulates a number of BCTs within (Hardcastle et al., 2017).

Therefore, to reduce global AMR, we need to enhance the appropriate use of antibiotics, and this starts with prescriber behaviour. There is an increasing role for nurse prescribers in antibiotic stewardship (Courtenay et al., 2018), and it is essential to understand what drives their decisions in terms of Capability, Opportunity and Motivation. Once barriers to appropriate prescribing behaviour are addressed (i.e. lack of knowledge or communication skills [capability], lack of confidence [motivation] or lack of a supportive environment [opportunity]), interventions can be developed. Education, training and enablement can be important intervention functions, equipping nurse practitioners and other health professionals with the knowledge and skills to confidently navigate a consultation to a non-prescribing conclusion, without causing patient dissatisfaction.

Communication skills

It is common for health professionals to find themselves in a consultation where it is clear a non-antibiotic prescribing decision is the best route of action but the patient feels they need an antibiotic. Additionally, patients who are given an antibiotic for a self-limiting condition such as a respiratory tract infection (i.e. when they don't need one) are more likely to return to the surgery when they experience similar symptoms in the future and will expect an antibiotic. These scenarios can lead to frustration, both for the practitioner and patient.

Good communication skills are essential for the success of any consultation, yet there is a paucity of research that has evaluated training nurse prescribers in effective communication skills to enable appropriate antibiotic prescribing behaviour. The 'Stemming the Tide of Antibiotic Resistance' (STAR: Simpson et al., 2009) educational programme, highlighted the need for effective communication to enhance antibiotic stewardship in general practice. The STAR programme was found to effectively reduce the antibiotic prescribing rate of general practice clinicians, as compared to a control group who did not receive the training (Butler et al., 2012). Furthermore, there was no difference in the number of hospital admissions between the two groups, highlighting that a reduction in antibiotic prescribing did not lead to an increased need for a hospital visit. The training intervention included seminars that allowed learners to reflect on their own prescribing behaviour, online educational components and time to practice and reflect on consultation skills used in routine care. It drew from the core considerations of Motivational Interviewing in a health care setting (Rollnick et al., 2008; Miller & Rollnick, 2012). This selection of practical, instructional and reflective activities can enable an increase in knowledge and confidence to actively engage with consultations, overcoming some of the core COM-B barriers to a non-antibiotic prescribing decision.

Developing training programmes

Training programmes should first consider a needs assessment of the learner, to create targeted learning outcomes and activities. COM-B can be used to facilitate this process,

highlighting the barriers to the target behaviour, in this case non-prescribing decision making. Training can then be developed to target these needs. To enhance consultation knowledge and skills, training programmes could draw from Motivational Interviewing (Miller & Rollnick, 2012; Rollnick et al, 2008) and reflective practice.

Learners should be encouraged to: Ensure a good **PACE**: Working in **P**artnership with the patient, showing **A**cceptance and **C**ompassion for their wants and concerns, making every attempt to have **E**vocative conversations of an acceptable way forward. To do this, as a practitioner they must **E**ngage; **F**ocus; **E**voked and **P**lan. To do this, they can use the **RULE**: **R**esist the righting reflect, **U**nderstand client motivation, **L**isten and **E**mpower and the micro-skills of the **OARS**: **O**pen ended questions, **A**ffirmations, **R**eflective Listening and **S**ummaries to facilitate the consultation. Finally, if an information exchange is needed, the **E**licit-**P**rovide-**E**licit (EPE) technique can enable this process without causing patient disengagement.

Using the educational elements of role play, reflection and feedback can help to build the knowledge and skills needed to use this approach effectively in practice. This type of training can be undertaken in face-to-face workshops, or via an online learning platform. Below is an example of what training might cover to support antibiotic stewardship based on this approach using a stereotypical consultation of a patient requesting an antibiotic:

Consultation Case Study

Patient A, a 35 year old male, non-smoker with no obvious co-morbidities, attends a consultation with a common, acute, uncomplicated self-limiting respiratory tract infection. He is concerned his condition will worsen and wants to get better quickly as he cannot afford to take time off work. He is agitated and wants a prescription for antibiotics as he feels they have helped him get better faster in the past.. A clinical assessment suggests his condition would not benefit from an antibiotic prescription. Consultation time is limited and the clinic is already running behind time.

How to respond: The role of effective communication skills

PACE: It is important that the whole consultation feels like a *partnership*, where the patient feels *acceptance* of his concerns about his current condition, giving him a feeling that the practitioner is on his side. *Compassion* for what he feels is the best course of action is important, even if at this point it is against clinical judgement, this is how the patient is feeling. The practitioner role here is to reach *evocation* of the best way forward in a patient-centred fashion, by helping the patient to understand how antibiotics work, and whether they are required on this occasion. To do this, practitioners should build knowledge and skills in the following:

Engage: Fully engaging patients through the consultation process is one of the best ways to reach a patient-centred decision. To build trust, it is important to develop a good rapport. A good way to start a consultation is to simply say: “*How can I help you today?*” This open-ended question enables the patient to respond freely to why they have come to the consultation and can get to the root of the problem quickly.

Resist the righting reflex: Patient A is likely to say that he has come to get some antibiotics for his cough and sore throat. It may sound counter-intuitive, but telling the patient at this point that antibiotics will not work for his condition and that he should go home and rest may lead to resistance in the consultation. This is what psychologists call: ‘*the righting reflex*’. Although a natural part of nursing is to give clinical advice, this initial interaction could in fact make the patient less open to engaging with the consultation.

Elicit-Provide-Elicit: Instead, it is important to actively engage the patient to ensure that they are ready to receive this information. Using the ‘Elicit-Provide-Elicit’ approach can facilitate effective knowledge exchange. The practitioner can first Elicit what the patient already knows about the use of antibiotics for symptoms such as those he is experiencing. After listening to

the response, they can ask permission to Provide some factual information, followed once again by Eliciting what the patient thinks of this. The consultation with Patient A may proceed with: *“What do you know about how antibiotics work and what they are effective for?”*, followed by; *“I have a little more information on this that I would like to share with you, would that be ok?”* With permission, factual information can then be provided and any questions addressed. This phase of the consultation can conclude by eliciting once again; *“What do you think this means for your current condition?”* This helps the patient to bring their thoughts out into the open, for the practitioner to provide factual information that the patient may not be aware of and allows them to reflect on this in relation to their presenting condition.

Focus: Now that rapport has been built and information has been exchanged, Patient A needs to focus on what the best course of action is to optimise his health and wellbeing. After the practitioner has discussed the lack of efficacy for viral infections, which his symptoms are most likely to be, he can be assisted to focus on expectations and what is likely to happen in his recovery process over the next few days.

Listen, Understand and Empower: It is important that the patient is made to feel understood and that his concerns and desire for antibiotics are not dismissed or made to feel inferior. Instead, training should help the practitioner to listen to his concerns and use the speaking and listening skills to reflect back to him the evidence in favour of and against the use of antibiotics in his situation. Whilst this can be challenging, especially in a busy and already delayed clinic when there is only a certain amount of time with a patient, it is still useful to ask open-ended questions, which often start with *‘what’, ‘who’, ‘how’, ‘when’* or *‘where’*. This will encourage the patient to talk, enabling them to be actively involved in the decision making process.

Evoke: In asking open questions, the patient is encouraged to cognitively reflect upon and understand their current situation. In the past, their demands may have been met with no

question and they may have never been afforded the opportunity to have a conversation about the most effective course of action. This could be an opportunity to break a cycle of patient expectation for antibiotics, while also maintaining a good patient-practitioner relationship.

Plan: The patient should leave the consultation with a plan and a way forward, summarising what you have discussed and concluding with what to do if their symptoms get worse.

Overview

Antibiotic stewardship in community nursing can be facilitated by the development of effective consultation skills. When training nurse practitioners in communication skills, it is important to acknowledge the drivers of their behaviour in relation to COM-B and to allow them insight into their current behaviour. This can be facilitated through peer observation and feedback, audits of individual and practice prescribing behaviour and self-reflection. These can all be encouraged on an ongoing basis to develop best practice. Training can then be developed to build knowledge, skills and confidence to enable appropriate antibiotic prescribing behaviour.

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