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Patient information can improve appropriate antibiotic prescribing

Key learning points:

- ▶ To slow emergence of antibiotic resistance we need to reduce the use of unnecessary antibiotics and increase patient self-care for infections
- ▶ To raise awareness of the TARGET patient leaflet and TARGET resources
- ▶ Join the growing number of people making a simple pledge to help reduce antimicrobial resistance and sign up to be an antibiotic guardian today

Antimicrobial resistance (AMR) continues to be a rising threat to the provision of modern medicine. Unless definitive measures are taken to optimise antibiotic use and to control the spread of resistance, we will become unable to treat life-threatening infections. The Chief Medical Officer, Dame Sally Davies has called for action on antimicrobial resistance, recommending that antimicrobial resistance is placed on the National Risk Register.¹

Antimicrobial resistance (AMR) is defined as “the resistance of a microorganism to an antimicrobial medicine to which it was originally sensitive. Resistant organisms (including bacteria, fungi,

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viruses and some parasites) are able to withstand attack by antimicrobial medicines, such as antibiotics, antifungals, antivirals and antimalarials, so that standard treatments become ineffective and infections persist, increasing risk of the spread of resistant organisms and infections to others”.²

There are more than 54,000 nurses and midwives in the UK who can prescribe,³ and more 19,000 nurse independent and supplementary nurse prescribers⁴ in primary care and there are a growing number in secondary care. In 2010 the NHS Prescription Service (NPS) in England recorded 12.8 million items prescribed by nurses⁵.

Despite recent efforts to reduce inappropriate prescribing of antibiotics, prescriptions for respiratory tract infections (RTIs) have risen over the last ten years.³ Currently 80% of antimicrobials are prescribed in primary care² of which half are for RTIs; in healthy individuals most RTIs are self-limiting and do not require antibiotics.

BACKGROUND

Interviews with patients and the general public indicate that many do not know how long common RTIs usually last, do not realise antibiotics make little difference, nor do they know when to visit a GP/nurse about these conditions. It has been shown that patient information leaflets in primary care consultations to support advice given about the natural length of respiratory tract infections do reduce re-consultation rates and antibiotic prescribing in adults^{6,7,8} and children.⁹

An initial workshop with a range of health care professionals was held by the British Society for Antimicrobial Chemotherapy (2009) to assess the evidence and barriers around improving antibiotic prescribing in primary care. It confirmed the need for a patient leaflet, as part of multifaceted education directed at health professionals and the general public. Participants agreed that patients should receive clear information about the likely duration of symptoms, self-care and the likely benefits and harms of antibiotics.¹⁰

It was agreed that prescribers should be encouraged to use “delayed antibiotic” prescriptions, in which a patient is asked to only collect their prescription if their current infection doesn’t improve within the expected time period suggested by the clinician, or gets worse.¹¹ Following this workshop the TARGET (Treating your infection) patient information leaflet has been developed.

METHODS

Two versions of the TARGET patient information leaflet were designed following the workshop. Two focus groups with six members of the general public were conducted by Public Health England (PHE) to discuss the two different styles of leaflet. The participants reported that a glossy version was less “trustworthy” as it looked like advertising material. They confirmed a personalised leaflet with information on the usual duration of their current infection, advice on what they could do to help their symptoms, and a list of symptoms or signs that should prompt them to contact a health professional were important components. Information on why they need to reduce the use of antibiotics was also consistently reported as useful by the groups.

A draft black and white information leaflet, which could be easily printed by prescribers was developed in close consultation all stakeholders. After further adaptations following one to one interviews with 25 patients visiting a GP practice in Gloucestershire, the leaflet was launched with other TARGET antibiotic resources in 2012 on the Royal College of General Practitioners (RCGP) website. It has proven to be the most popular part of the TARGET materials that aim to help prescribers improve their antibiotic use.¹²

Review of the TARGET patient leaflet

In 2014, 18 months after the leaflet was launched, the design was re-evaluated with professionals and the public to determine if any further changes were needed. Three sessions took place with patients from a general practice in Gloucestershire and one was conducted with further education students from a college in Slough between August and September 2014. A total of 85 people (64 patients and 21 students) participated in individual interviews during the feedback sessions providing comments on layout, wording, understanding and the relative importance of information included in the leaflet. Changes were then made to the leaflet in line with these findings.

Applying behavioural Insights

Members of the PHE Behavioural insights team were consulted to review the content of the leaflet from a behaviour change perspective. This approach draws on insights from behavioural science to enable, support and encourage behaviour change, with the aim to accelerate population level improvements in health and wellbeing.

RESULTS

Self help Information: 91% (39 out of 43) thought the information on illness duration was useful. Some commented that it could be used to notify work or school about how long their illness might last.

Delayed vs back up prescribing: Before any explanation of the term was given, 74% (26 out of 35) of participants had not heard of a delayed prescription and did not understand when it would be used. The term ‘back up’ prescription was preferred to ‘delayed’ as this would signify ‘just in case’ antibiotics rather than a delay for treatment.

Presentation: 84% (58 out of 69) preferred a green background which made the leaflet look like a prescription, rather than the greyscale version. In terms of logos 74% (28 out of 38) supported the use of one or more logos on the leaflet, as they thought this indicated that the information was from a reputable source (this opinion was also held by GPs who fed back opinions on the leaflet); however a few patients thought the logos were irrelevant to them.

Seeking help: 77% (36 out of 47) of participants thought the ‘when

should I seek help’ section of the leaflet was useful. When discussing this aspect of the leaflet they thought it would put their mind at rest and stop them from panicking about their symptoms.

Antibiotic messages: Seven key messages about antibiotic use and resistance were presented to patients. They were asked to pick the most important messages to be included on the leaflet. The most favoured messages around antibiotics were messages covering the following information:

- Respiratory tract infections usually get better without antibiotics
- Information about possible side effects of antibiotics
- Higher use of antibiotics is linked to antimicrobial resistance
- Reducing the use of antibiotics will preserve them

These four messages collectively were selected by patients 83% of the time.

Application of behavioural Insights

The layout and the language was altered using insights from behavioural science to optimise the effectiveness of the leaflet. The title was changed to ‘treating your infection’ from ‘antibiotic information leaflet’, moving the emphasis away from antibiotics with an aim to reduce the patient expectation of antibiotics. More prominence was placed on reinforcing self-care as the most effective and appropriate course of action by introducing ‘self-care’ as the initial action and removing the option ‘no antibiotic prescription given’. Re-orienting the focus on self-care was intended to help counteract the potential for antibiotics to be perceived as scarce¹³. Scarcity^{14,15} is associated with the perceived rationing of antibiotics by health professionals which may increase the value people place on antibiotics and therefore their desire for antibiotics.

Behavioural components of the patient information leaflet

The leaflet emphasises the following behavioural insights:

- **Personalisation and salience** – ‘patient’s name’ and presentation of key actions.
- **Messenger** – ‘your doctor or nurse recommends’.
- **Simplification** – reduced complexity of language and overall number of key messages within leaflet.
- **Action focused language** – providing the patient with clear instructions on how to collect a back-up prescription.
- **Defaults** – the tick box for ‘your doctor or nurse recommends that you self-care’ should be selected in every instance whether or not a back-up antibiotic prescription is issued.
- **Incentives** – emphasising that antibiotics can cause unwanted side effects.

Key Elements of the Patient Information Leaflet

The leaflet explains to the patient:

- The diagnosis (for example sinusitis, bronchitis or cold)
- The decision about antibiotics
- The natural timeframe for their illness
- Self-help management techniques
- When to seek help (safety net)
- The need for safe antibiotic prescribing

The ‘usually lasts’ section: supports patients to understand the usual duration of an infection and when they should seek medical support. This section has consistently been seen as very useful by patients of all ages.

Safety Netting: this section provides information for patients on when they should get help and how.

The back-up prescription: this option may reduce antibiotic prescribing by approximately 30 to 40%¹⁶ and can be useful just before a weekend to reduce visits to out of hours services.

Advice on using antibiotics appropriately: these help to address the lack of understanding of the lack of benefit of antibiotics for RTIs, the side effects and the serious nature of antibiotic resistance.

DISCUSSION

Key findings from the feedback sessions

The majority of patients and students questioned about the leaflet had favourable reactions to it, thought it would be useful and that the content was understandable. This may in part be due to the use of the 'crystal mark' review system, which promotes the use of plain English text in publications for the public and the involvement of multiple stakeholders during development. Sense checking of

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medical terms was important, as use of the term 'delayed' antibiotic prescriptions was not understood by patients and was associated with negative connotations, such as administrative delays. The information on illness duration gave patients realistic expectations about how long they may experience symptoms and was useful to patients who suggested they would use the information to plan for their illness.

The 'when should I seek help' section of the leaflet was highlighted as important source of reassurance for patients. This section gives guidance on appropriate ways for people to seek help, may help reduce the burden of consultations on out of hours services and unnecessary emergency calls for infections. The leaflet could also be kept and used in future illnesses, although further evaluation of the leaflet will be required to test this fully.

There was a preference for the use of the green coloured version of the leaflet (which was designed to make it look like a prescription); however it has been designed so it can also be printed in grayscale to reduce printing costs and for practices that don't have colour printers.

We know of at least three localities that have printed tear off versions of the patient leaflets and distributed them to GP practices to facilitate their use.

CONCLUSIONS

The TARGET leaflet is designed to be shared with the patient and completed with them during the consultation rather than given as a parting gift. It could be particularly useful in practices in which nurses triage patients. Its aim is to increase the patient's confidence to self-care, and to facilitate the use of a back-up antibiotic prescription, but it also allows the patients to go away with something, so ending the consultation with an action plan. The leaflet is freely available to download and use from the RCGP website at: www.rcgp.org.uk/targetantibiotics, www.patient.co.uk and several GP computer systems allow immediate access to the patient leaflet. It is designed to be used as part of the TARGET Toolkit which all health care practitioners are able to access for free. The website also hosts posters which can be displayed in

clinical settings, videos and educational resources for healthcare staff about optimising antibiotic use in the practice.

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