Forum Article - Dr Laura Noonan QIP Award

A two part study to assess patient's knowledge and attitudes regarding antibiotic use for uncomplicated upper respiratory tract infections (URTIs) and the effectiveness of using a take home patient information leaflet during the consultation to reduce antibiotic prescribing in General Practice.

Background

The common cold, which is usually caused by a rhinovirus is the most prevalent disease in humans. (1) .There is no role for antibiotics in the treatment of the common cold/upper respiratory tract infection (URTI). Patient's expectations when attending the GP with a URTI are influenced by their understanding of antibiotics and antibiotic resistance. Despite the lack of effectiveness of antibiotics for treating symptoms of the common cold GPs frequently prescribe antibiotics for these patients in response to patients' expectations or the GP's own perception of the patient's expectation.(2).

There is limited research into the area of patient's knowledge and attitudes towards antibiotics particularly among the Irish population. The researcher therefore decided to conduct research into the area of patient's awareness of issues surrounding antibiotics and how the use of an educational tool by the GP within the consultation for a URTI might influence the management of that patient. If it is better understood which patients consult their General Practitioner with a URTI and what their expectations for that consultation are then the more effective the management can be.

Introduction

The primary end point of the study is to ascertain if the use of the patient information leaflet reduces antibiotic prescribing for URTIs. The secondary end point is to evaluate if there is an in increase in reserve prescriptions for antibiotics and a reduced reconsultation rate within the same illness through the use of the patient information leaflet for all those patients presenting with URTIs

Literature review

The existing literature demonstrates that the Irish are high consumers of antibiotics and that this impacts on levels of antibiotic resistance. (3). Antibiotics are often prescribed by GPs due to their perception of patient's expectations when they present with URTIs. (4, 5). The existing data demonstrates that the general public have a poor understanding of the role of antibiotics in the treatment of cold and flu. (6). It has been noted that reconsulting within the same illness increases the likelihood of receiving a prescription for antibiotics (7, 8). There is evidence that patient education reduces antibiotic prescribing (9, 10, 11) but there is also data demonstrating that this is not the case. (12).

Method: There were two strands to this study:

1. The first part of the study consisted of a questionnaire which analysed personal management of URTIs and utilisation of the General Practitioner the purpose of which was to assess the knowledge and attitudes of the general public regarding antibiotic use for URTIs.
2. The second part of the study consisted of a control and intervention week whereby during the control week consultations for URTIs proceeded as usual and during the intervention week a "Take Home Patient Information Leaflet" was introduced to those consultations. (13,14) This leaflet was relating to management of URTIs with a view to reducing antibiotic prescribing for uncomplicated URTIs.

The Control:

During the control week three General Practitioners in two different rural practices kept a record sheet of all patients that presented to them with symptoms of an URTI. The patient's name, age, GMS status, complaint and management were documented. Management included advice only, reserve prescription for antibiotics (to be filled only if patient was not improving or getting worse) or prescription for antibiotics. The GP conducted the consultation as usual and documented what the management of each patient was. Each patient's file was

checked after 2 weeks to see if they re-consulted to the practice or out of hours service with the same set of symptoms.

The Educational Tool:
A written patient information leaflet was devised. It was designed for use by the GP within the consultation.
The leaflet contained information about viral illnesses, antibiotics and antibiotic resistance, the likely duration of certain symptoms such as a sore throat and runny nose. There was advice regarding over the counter products for symptom relief. As a safety net the patient was reminded that they could reconsult at any stage of the illness and also provided the phone number for the out of hours service, should any worrying symptoms develop outside of normal surgery hours. The patient's name and the date of the consultation was put on the top of the leaflet. It was then signed by the GP who did the consultation. By personalising and signing the information leaflet it was felt that the patient would feel that their symptoms had not been ignored or considered trivial and that the patient may value the leaflet as a useful resource to have at home as a reference in the future.

The Intervention:
The GPs then maintained an identical record to that kept during the control week. In the management section the GP recorded whether the patient information leaflet alone was given to the patient or if they also received a reserve prescription to be filled only if they were not improving. If a reserve antibiotic was prescribed it was checked with the Pharmacy if and when it was filled. This was to check if the reserve script was being used appropriately. If the script was filled on the same day as the consultation it would be deemed inappropriate use of the reserve prescription. The patient files were checked for re-consultation of any type within two weeks of the initial consultation and the outcome of that consultation was checked for antibiotic prescribing-as repeat consultation within the same illness can increase the pressure on clinicians to prescribe antibiotics. (7,8).

Results and Discussion:

Questionnaire

- 73.3% of respondents demonstrate knowledge of the correct use of antibiotics by answering questions that prove that they understand that antibiotics do cure bacterial infections but do not cure viral infections. This is a much higher percentage of patients than expected and compared to existing data. This may be related to the large number of private patients (66.6%) who responded to the questionnaire or the number of employed patients (63.3%).
- 50% of patients when unwell try an over the counter medication first and 20% usually see the doctor when they have a URTI
- 56.6% of patients do not feel that the GP is dismissive of their symptoms when they do not receive a prescription for an antibiotic. Only 26.6% of patients report they do feel the doctor doesn't understand the severity of their symptoms when they do not receive a prescription for an antibiotic and 16.6% sometimes feel that way. This is encouraging for GPs as it proves that not all patients want an antibiotic when they come to the GP with a URTI.
- 43.3% of patients attend the GP to relieve symptoms. This is encouraging as advice regarding symptom control can be given without prescribing antibiotics. 30% report "to get an antibiotic" as their reason for consulting the doctor. 13.3% of patients attend the GP to clarify the diagnosis or to get a cert for work. This again reveals that patients attend the GP for a variety of reasons other than to get an antibiotic.
- A significant difference in knowledge was identified between medical card (60%) and private patients (80%). The same difference was noted for having heard of antibiotic resistance with 40% of medical card patients having heard of resistance compared to 95% of private patients who reported having heard of resistance.
- This data shows the importance of educating patients about the correct use of and indications for antibiotics. Those patients who understand the role of antibiotics are less likely to present to the GP with symptoms of a URTI. 31.8% of these patients usually get better without seeing the doctor and 45.45% try an over the counter remedy and if this doesn't work then see the doctor.

Control and Intervention Weeks

- *Immediate Prescriptions*

This study demonstrated an overall reduction in the prescribing of antibiotics for URTIs between control and intervention weeks. 47.5% of patients received an antibiotic during the control week compared with 13.3% who received an antibiotic during the intervention week. This is largely supportative of the pre-existing literature regarding the use of a patient education tool as an aid to reduce antibiotic prescribing, as most trials demonstrate a reduction in antibiotic prescribing for URTIs after patient education. (9,10,11,12)

- *Reserve Prescriptions*

There was an increase in reserve prescriptions for antibiotics for URTIs between the control and intervention weeks from 15% to 43.3%.
46.15% of the reserve prescriptions during the intervention week were filled. It was expected this number would be significantly higher and this is therefore a very interesting piece of data which supports the use of the reserve prescription.
Regarding the reserve prescriptions filled during the intervention week 50% were filled on the same day, 33.3% were filled next day and 16.6% were filled 2 days later. As patients were informed that they should obtain the antibiotic from the pharmacy only if they had not improved within 48 hours, this data demonstrates poor compliance with the correct use of the reserve prescription as only 16.6% filled the prescription after 2 days. It cannot be assessed whether these patients immediately started the antibiotic or if they kept it at home either for use later in the same illness or kept for future illnesses.

- *Advice/Patient Information*

There was an increase in advice only/patient information leaflet between the control and intervention weeks. 37.5% during the control week compared to 43.3% during the intervention week.

- *Reconsultation*

There was a small reduction in reconsulting between the control and intervention groups from 7.5% to 6.6%. 100% of those who reconsulted received a prescription for antibiotics.

- *Presenting Symptoms and Management*

The majority of antibiotics prescribed either as an immediate or a reserve prescription were prescribed for patients with chesty symptoms

Conclusions and Recommendations

This study demonstrates the importance of an educational programme regarding the correct use of antibiotics and antibiotic resistance directed at all sectors of society that is acceptable and can be understood by all.

The study revealed that using a patient information leaflet during the consultation reduces antibiotic prescribing, increases the use of a reserve prescription for antibiotics and increases advice only given during consultations for uncomplicated URTIs.

	Advice	Reserve Rx	Immediate Rx
Control	37.50%	15%	19%
Intervention	43.30%	43.30%	13.30%

As has been reported in the existing literature a multifaceted approach involving both patients and doctors is the most successful way to reduce unnecessary antibiotic use for uncomplicated URTIs. (10) This approach can only be achieved through the co-operation of each of the groups involved including patients, GPs and the HSE. As antibiotic resistance is a

worldwide public health issue urgent action needs to be taken to reduce over prescribing and over use of antibiotics.

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